

THE GRANARY OF THE BRITISH EMPIRE



The
WESTERN
PROVINCES OF
CANADA

MANITOBA, SASKATCHEWAN, ALBERTA, BRITISH COLUMBIA.

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C. E. E. Ussher
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Montreal
Canada

The Western Provinces of Canada

Foreword

"The nineteenth century belonged to the United States—the twentieth belongs to Canada." Thus spoke one of the clearest thinkers in America several years ago. Canada is a country of great distances and immense possibilities. Extending from the Atlantic to the Pacific, it is more than equal in size to the United States, and, in fact, covers over 3,745,000 square miles, one-twelfth of the land surface of the earth.

The completion of the Canadian Pacific Railway from ocean to ocean, through Canadian territory, first disclosed the real capabilities of the Western plains, and the favorable nature of their climate. Time and the course of events have widened the scope of that disclosure, and opened a wheat field with a productive power equal to a world supply. This was a discovery of positive fact that compelled attention and dissipated doubt, and the stream of settlement immediately began to flow. Since then it has been demonstrated that Western Canada, with its tremendous dimensions and immense material wealth, presents to the homeseeker the greatest opportunity of the age.

The potential wealth in the rich soil of Western Canada has attracted from all quarters of the globe men and women tired of the impoverished surroundings which are the unfortunate complement of many of the populous centres of modern civilization, and anxious, while there is yet time, to secure to themselves and their families a share of the prosperity which the boundless West holds in store for those who seek it. And they have not come in vain, for to every willing worker Western Canada has given freely and abundantly. Notwithstanding, however, the rapidity of settlement, the West is but yet upon the fringe of greater things, and out of its 170,000,000 acres of wheat land, only about 10,000,000 were under cultivation to wheat in 1913.

Western Canada is now far beyond the experimental stage. It is a country that has been tried by the most exacting test to which a new country can be put, and has come triumphantly through the ordeal. There can be no doubt now that the settlers who are so rapidly peopling the great West of Canada, and making their homes there, are destined to be the wheat producers for the British Empire.

PART I.

HISTORICAL

The history of the agricultural settlement of the territory now described as the Western Provinces of Canada dates from 1812, when Lord Selkirk, a young Scottish Nobleman, established a small colony on the Red River. Previous to that time the vast expanse of practically unknown territory from the Great Lakes to the Pacific Coast had been exclusively a preserve of the fur traders. The Hudson's Bay Company dates its charter back to the days of King Charles II., in 1670, and for two hundred years it was the dominant factor in the civil and commercial management of the territory.

POLITICAL ORGANIZATION

In 1869 the Dominion of Canada acquired from the Hudson's Bay Company the whole of the area then administered by that concern, and a Lieutenant Governor and council were appointed by the Dominion Government. Previous to this, as far back as 1833, there had been a form of local government in the Red River settlement. In 1870 the Province of Manitoba was formed, and a government for that province was organized the following year. The area lying between the Rocky Mountains and Manitoba was organized into the three provincial districts of Assiniboia, Saskatchewan and Alberta. In 1905 the Provinces of Alberta and Saskatchewan were constituted out of this area and given responsible government.

West of the centre line of the Rocky Mountains is the Province of British Columbia, which had been a British colony up to the time of Canadian Confederation. In point of settlement the only important part of this area was Vancouver Island, and in 1869 this island had been granted to the Hudson's Bay Company for ten years. In 1870 British Columbia, including Vancouver Island, joined the Dominion on the condition that a railway should be built within ten years to unite the territory with Eastern Canada. The railway was built, and now forms the main portion of the Canadian Pacific Railway, the "All Red Route."

SOILS OF WESTERN CANADA

Scientists contend that the great prairies of the Canadian West are really extensions of the upper sections of the Valleys of the Mississippi and Missouri Rivers. The materials constituting the surface deposits of the prairie region vary in different districts, but may be generally described as consisting of a loam bed which may be anywhere from a few inches to several feet in thickness, and which, so far as studied, appears to be partly of a vegetable formation intermixed with fine sand and silt. Beneath this loam, which varies from a heavy black to a chocolate color according to location, is a clay subsoil of variable thickness almost everywhere on the plains. From this clay considerable quantities of common brick are manufactured, and in some localities it is found to be of pronounced value as the basis of ceramic industries.

There is probably no district on the North American continent which can boast of a soil as fertile and productive as that of Western Canada. This applies very generally, and is the result of tons of deposit by the great inland sea which once covered this part of North America, and of which the Great Lakes of the Northwest are the remaining links.

It is only of recent years that the abnormal fertility and lasting qualities of the soils of the great plains of America has been properly appreciated and understood. Soil chemists nowadays are accepting the theory that the principal cause of soil exhaustion is a heavy rainfall, which brings into suspended form the available plant food in the soil, and carries it away with the storm waters into the drainage channels.

It stands to reason that where the rainfall is not sufficient to create floods or heavy run-off, so characteristic of Eastern Canada and the Eastern and Central States, but remains, more or less, in the sub-soil, there is practically no loss by leaching whatever, and consequently the lasting qualities of the soil are correspondingly greater. While the Western Provinces over the greater part enjoy a rainfall entirely sufficient for agricultural purposes, they are very seldom subject to excessive rains. This is an important fact to take into consideration in connection with agriculture on prairie soils.

The general character of the soil of the three Prairie Provinces is very well described by Professor Shaw, one of the best known agronomists of the United States, who has made a careful and thorough study of them all:

"The first foot of soil in the three Provinces of Manitoba, Saskatchewan and Alberta, is their greatest natural heritage. It is worth more than all the mines in the mountains from Alaska to Mexico, and more than all the forests from the United States boundary to the Arctic Sea, vast as these are. And next in value to this heritage is the three feet of soil which lies underneath the first. The subsoil is only secondary in value to the soil, for unless the former be of good value, there is a proportionate neutralization of the latter. The worth of a soil and subsoil cannot be measured in acres. The measure of its value is the amount of nitrogen, phosphoric acid and potash which it contains; in other words, in its producing power. Viewed from this standpoint, these lands are a heritage of untold value. One acre of average soil in the Canadian West is worth more than twenty acres of average soil along the Atlantic seaboard. The man who tills the former can grow twenty successive crops without much diminution in the yields; whereas, the person who tills the latter, in order to grow a single remunerative crop, must pay the vendor of fertilizers half as much for materials to fertilize an acre as would buy the acre in the Canadian West."

The soils of the Province of British Columbia vary from the light but fertile soils of the inland plateaus to the deep, black loams of the coast districts. The former is specially adapted to fruit-growing, and, where irrigation is available, to the production of fodder crops. The latter rank as the most productive soils in America, and grow phenomenal crops of nearly every kind.

CLIMATE OF WESTERN CANADA

It should be understood that in such a vast extent of territory with so many varying local conditions the climate cannot be expected to be uniform. Each portion of the country has its own peculiar advantages in the way of climate, and the settler can select for himself that portion for

his home where the conditions are likely to be most favorable to the particular line of farming which he wishes to follow. In dealing with the climate of Western Canada, we shall, for the purposes of convenience and clearness, divide our description into two parts:

(A) The Prairie Provinces, comprising Manitoba, Saskatchewan and Alberta, and

(B) The Province of British Columbia.

There are four questions which, in one form or other, the prospective settler is sure to ask, and which he must have satisfactorily answered, before finally making his choice.

1. Is the climate a healthy one?
2. Is the winter severe?
3. Is the summer hot?
4. Are the climatic conditions prevailing during the summer favorable to agricultural operations?

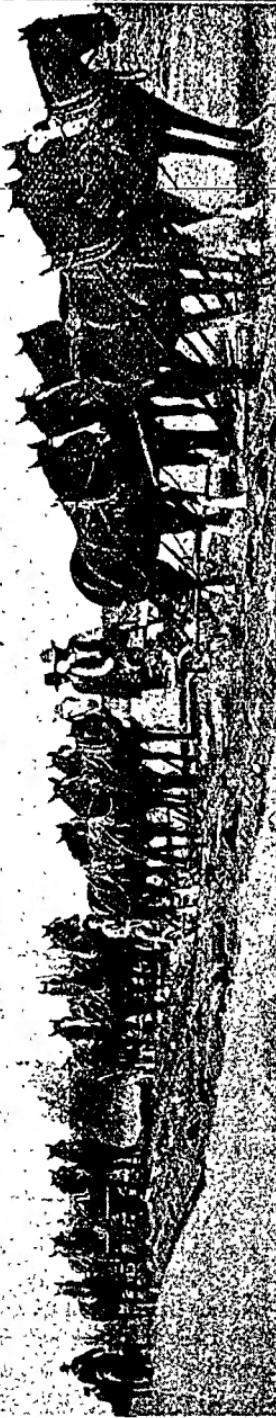
(A) The Prairie Provinces.

1. **Healthfulness.** The open nature of the country, clear, dry atmosphere and abundance of bright sunshine, its elevation (varying from 1,402 to 3,389 feet above the sea level), and the fresh breezes which blow across its plains, all tend to make it one of the healthiest countries in the world. There is an entire absence of malaria, and there is no disease peculiar to the country. The Western portions of the country have attained a considerable reputation as health resorts, particularly for persons of consumptive tendencies, and many who have found life a burden through delicacy of constitution in other countries have acquired complete health by a few months' residence in this beneficent climate.

2. **The Winter.** At times and at places the winter is somewhat severe. That is to say, between about the 15th of December and the 15th of March the thermometer frequently registers a temperature considerably below zero. At this period also storms, known locally as "blizzards" occasionally occur. During such, however, very low temperatures rarely prevail. Having stated this, the worst has been said. With the aid of comfortable houses and proper clothing and furs the prairie settler defies the winter at its worst.

The average weather during the winter in Manitoba, Eastern Saskatchewan and Northern Alberta is clear, calm and cold, with intense bright sunshine. The snow, which rarely falls to more than a few inches in depth on the prairies, is dry and powdery. Under such circumstances life is enjoyable and healthful. The average settler is a cheery soul and fond of social gatherings and amusements for which the winter affords many opportunities. Low temperatures in winter in this dry climate cause no inconvenience unless accompanied by high winds, which is not often the case. The immigrant may prove this conclusively by watching the rosy-faced school children rolling each other in the dry powdery snow on a fine winter day when the thermometer perhaps stands several degrees below zero.

Breaking the Virgin Sod of Western Canada



The winter in Southern Alberta and Western Saskatchewan is a season of bright, cloudless days, infrequent and scanty snowfalls and frequent and prolonged breaks of warm weather, heralded by the chinook wind. Wagons are used during the entire year, and it is only in occasional seasons that sleighs are necessary for brief periods. In January and the early part of February there are sometimes short periods of cold, sharp weather. Heavy snowstorms have at times covered the prairie more than a foot deep, but this is very exceptional. The winter generally breaks up in February with a warm wind from the west, followed by a period of from one to three weeks of warm, bright weather, the beginning of Southern Alberta's spring. The earliest spring flowers appear in March. May is generally fine, warm and bright, June and the earlier part of July rainy, the remainder of July, August, September, October and generally November warm and dry. The summer, July to September, is characterized by hot days, relieved by a never-failing breeze, and cool nights, but the warm golden days of autumn, often lasting well into December, are the glory of the year. The grand characteristic of the climate as a whole, and the one on which the weather hinges, is the chinook wind, so called because it blows from the region formerly inhabited by the Chinook Indians, on the banks of the lower Columbia River. It is a warm, dry, balmy wind, blowing from the mountains across the plains, and its effect in winter may be described as little short of miraculous; in its clearing away of the snow, always scanty in amount, with amazing celerity.

3. **The Summer.** The same cause which obviates the inconvenience which might under other circumstances arise from low temperatures in winter, namely, the dryness of the atmosphere, also operates in the settler's favor in summer time, permitting of a rapid radiation of the heat communicated to the land by the intensely powerful rays of the sun in our cloudless skies. It thus happens that, however warm the temperature may be during the day, the nights are always cool, allowing of perfect rest. Of course, extremely high temperatures are exceptional, but temperatures of over 90 in the shade are by no means uncommon. Here, again, the dryness of the atmosphere is individually helpful, by rendering the cooling action of perspiration—Nature's great safeguard—most effective. The writer is not aware that any case is on record of deaths in Western Canada directly attributable to excessive heat, while, not long ago, it was reported that no fewer than 250 persons perished in one day in the city of New York from excessive heat. The highest temperature recorded there at that time was 99.8°.

4. In replying to the question, "Are the climatic conditions prevailing during the summer favorable to agricultural operations?" the matter of rainfall is, of course, of first importance in non-irrigable sections. From the statement given elsewhere it will be seen that the normal precipitation in the Prairie Provinces is quite sufficient in volume to ensure satisfactory agricultural results. Indeed, the crop statistics of this area furnish the most complete and conclusive evidence on that point.

(B) British Columbia.

Varied climatic conditions prevail in British Columbia. The Japanese current and the moisture-laden winds from the Pacific exercise a moderating influence upon the climate of the coast and provide a copious rainfall. The westerly winds are arrested in their passage east by the Coast Range, thus creating what is known as the "dry belt" east of those mountains, but the higher currents of air carry the moisture to the loftier peaks of the Selkirks, causing the heavy snowfall which distinguishes that range from its eastern neighbor, the Rockies. Thus a series of alternate moist and dry belts is formed.

The climate of British Columbia, as a whole, presents all the conditions which are met with in European countries lying within the temperate zone, the cradle of the greatest nations of the world, and is, therefore, a climate well adapted to the development of the human race under the most favorable conditions. As a consequence of the purity of its air, its freedom from malaria, and the almost total absence of extremes of heat and cold, British Columbia may be regarded as a vast sanitarium. People coming here from the East invariably improve in health. Insomnia and nervous affections find alleviation, the old and infirm are granted a renewed lease of life, and children thrive as in few other parts of the world.

In his first report on British Columbia, Professor Macoun, of the Geological Survey, stated as follows:

"It only remains for me to add that as years roll on, and our possessions become developed, the value of this second Britain will come so vividly before our people that men will ask with astonishment why such ignorance prevailed in the past. To-day there are 400 miles of coast line in our Western possessions clothed with a forest growth superior to anything else in the world at present; its shores indented with multitudes of harbors, bays and inlets, teeming with myriads of fish; its rocks and sands containing gold, iron, silver, coal and various other minerals. And, besides all this, a climate superior to England in every respect, both as regards heat and moisture, and yet men ask what is it all worth? I answer, worth more than Quebec and all the Maritime Provinces thrown in, and sceptics may rest assured that the day is not far distant when these words will be accepted as truth."

In the Kootenay district, which embraces the drainage area of the Columbia River, the high average altitude renders the air rarified and bracing. The rainfall ranges from 18 to 20 inches per annum, with a snowfall of from one to three feet. In summer the thermometer rises as high as 80 to 90 degrees in the shade, but the nights are compensatingly cool. At times in the winter there are cold spells, when the mercury falls below zero, but these are of short duration.

Throughout the great interior plateau a much drier climate is found, the total precipitation being from seven to twelve inches, according to locality. Luxuriant vegetation is confined to the borders of lakes and water courses, while the general landscape presents the usual round-topped hills and bunch grass of typical pasture or range land. In the many valleys thriving farms show the effects of careful cultivation, and wherever irrigation has been practised the result is seen in ample crops.

South of Shuswap and Kamloops Lakes the climate presents the mean between the dryness of the bunch grass country and the humidity of the coast. There is sufficient rainfall for all purposes, and the climate closely resembles that of Central Europe.

The many valleys cutting the Coast Range have distinct climatic peculiarities. Sheltered as they are by the surrounding hills from bleak north winds, the warm breezes from the coast are freely wafted through them. The sun's rays are concentrated on the side-hills with almost tropical intensity, and even on the higher benches orchards and vineyards yield enormous crops.

As soon as the mountains are left behind and the Pacific littoral is reached, there is an astonishing change in conditions. Where vegetation has been left in its virgin state there is almost an impenetrable under-growth, from which rise luxuriantly huge forests of fir, pine and spruce. This is accounted for by the heavy rainfall, which increases towards the north. But the winters are short and temperate, and emphasized more by a heavy rainfall than other climatic change. The high mountains of Vancouver Island break the force of the heavy storms sweeping eastward over the Pacific.

Probably the driest point on the coast is in the vicinity of Victoria. Harvest time is rarely unsettled, and there is seldom any difficulty incurred in reaping the crops. During many winters there is no perceptible frost, and delicate plants thrive throughout the year in the open air.

RAILWAY DEVELOPMENT

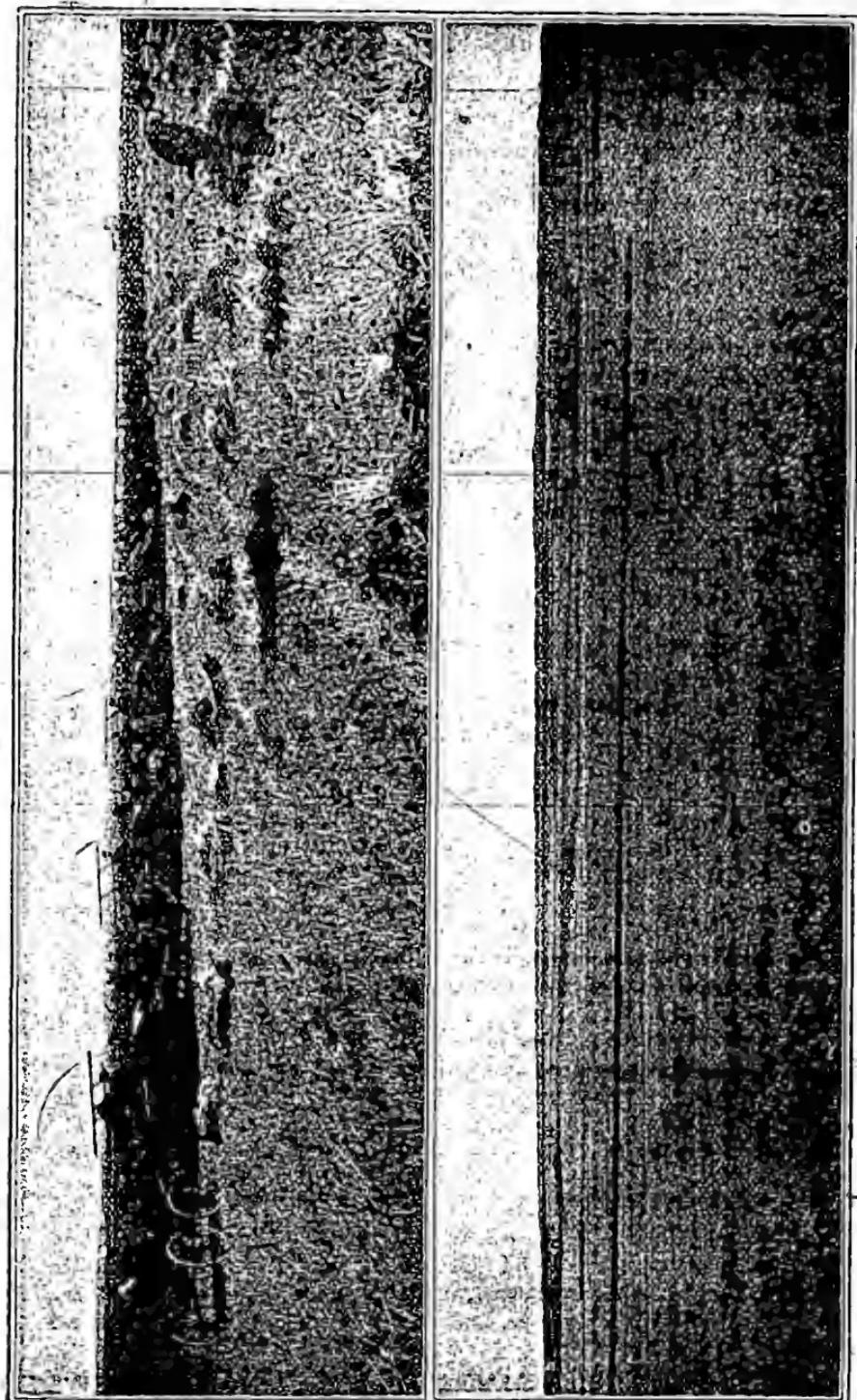
In accordance with its policy of affording, at the earliest possible moment, railway facilities to newly settled and rapidly developing districts, the Canadian Pacific Railway Company graded last year 499 miles of lines between the Great Lakes and the Rocky Mountains, the mileage of the Company in this territory being now 6,971. The length of the Company's main line from Montreal to Vancouver is 2,903 miles; the total mileage of the Company's lines is over 12,000, and the mileage of allied lines is over 4,000. The large demand for lots in the various townsites on the Company's lines furnishes substantial proof of the development which the West is experiencing. The double track from Fort William westward was completed between Regina and Pasqua and between Caron and Chaplin in 1912; and, it is expected, will be completed to Java by the end of 1913. Double tracking of the line from Vancouver to Calgary is also in progress. Extensions and improvements on a very large scale are being conducted by the Company in many parts of Western Canada.

WESTERN CANADA -- THE WORLD'S BREAD BASKET

The greatest industry of Western Canada is undoubtedly the production of wheat, oats, barley and flax, and a few words bearing on the magnitude of this industry, and the systematic manner in which the wheat is marketed and handled, are in order.

The rapid increase in the population of the United States during the last fifty years has resulted in a scarcity of good farm land in that Republic and a steady increase in the price realized for farm products. These conditions have had a marvellous effect upon the price of farm lands, so

The Sea of Wheat Ready for the Harvest. A Battery of Twelve Binders at Work



much so that land which was granted as free homesteads a very few decades ago is now valued at one hundred dollars per acre and upwards. Moreover, the farmer in recent years has been getting a fair net return for his labor, and this has the effect of placing productive lands in still greater demand. Nothing affects land values so quickly as "dollar wheat," once looked upon as something of a fabulous nature, but now an accepted fact.

This Company's wheat lands, capable of producing higher yields per acre than the lands of similar character in the United States, are sold at less than one-quarter the price per acre asked for the better class of winter wheat lands in the Pacific States. It is, therefore, evident that Western Canada wheat lands are sold vastly below their real value, and thus furnish an investment second to none.

OUR WHEAT LAND

The important feature in connection with the Company's wheat lands is that they rank as "hard" wheat producing. The demand for hard wheat is steadily increasing, while, on the other hand, the area of hard wheat land is comparatively limited. Hard wheat production is confined to Western Canada and a very few of the grain-growing States. Hard wheat demands peculiar advantages of soil and climate, which are the very conditions found naturally in the Prairie Provinces. Western Canada is therefore in reality the "Last West" where land capable of producing hard wheat can be obtained.

Although speculation in wheat lands has in many instances been immensely profitable, it is now the Company's policy to dispose of its lands to actual settlers only. The actual settler gains by the increases in the value of his lands quite as much as does the speculator. Land values are dependent upon quality and settlement. There is no question as to the producing abilities of our wheat lands, and as they are located in what ultimately will be one of the densest agricultural settlements in America, we are in a position to offer farmers an opportunity to purchase lands at a nominal figure that will, within a few years, rank among the most valuable agricultural areas in America.

QUALITY WHEAT

It is interesting to note that at the big Land and Irrigation Show, held in Madison Square Gardens, New York, November 3rd to 12th, 1911, Canada demonstrated in no uncertain manner that she is "Mistress of Wheat." Canada, on this occasion, carried off the prize for the best sample of hard red spring or winter wheat grown on the two Americas. Out of sixteen entries, Canada's Prairie Provinces came one, two, three, with Seager Wheeler, of Rosthern, Saskatchewan, first; W. J. Glass, Macleod, Alberta, second; and Thomas Maynard, Deloraine, Manitoba, third. This historical event was won with wheat that weighed 6½ lbs. per bushel above the average, and that yielded from 70 1-5 to 80 2-3 bushels per acre.

At the International Dry Farming Congress in 1912 the \$2500 tractor offered for the best bushel of hard wheat, competition open to the world, was awarded to Henry Holmes, of Raymond, Alberta. The prize for

the best bushel of short white oats was won by J. Sanigan, Efros, Saskatchewan; medium white oats, A. E. Barnes, Bow Island, Alberta; long white oats, S. C. Hagen, Winterburn, Sask.; black oats, W. S. Simpson, Glenbryan, Sask.; barley, N. Taitinger, Claresholm, Alberta; flax, H. Woolley, Dunmore, Alberta; Western rye grass, A. Perrey, Cardston, Alberta; alfalfa, H. H. Jenkins, Pincher Creek, Alberta; timothy, A. Perrey, Cardston, Alberta; potatoes, O. D. Matheson, Armstrong, British Columbia. These triumphs for Western Canada were achieved in open competition with the world. They tell their own story.

THE MARKET FOR GRAIN

But the productivity of our wheat lands, and modern transportation facilities, would be of little value if the farmer were not assured of a good price for his crop. The figures quoted below answer all questions on that score. There is a considerable home market for wheat and cereals, but the bulk of the wheat is exported, the business being transacted through the Grain Exchange at Winnipeg.

The following table shows the average price per bushel of No. 1 Northern wheat f.o.b. Fort William or Port Arthur during the last nine years:

1904—\$.92	1907—\$.90	1910—\$1.00 $\frac{1}{2}$
1905— .91	1908— 1.06	1911— .94 $\frac{1}{2}$
1906— .77	1909— 1.10	1912— 1.00 $\frac{1}{2}$

No. 2 Northern wheat averages about three cents lower than No. 1, and No. 3 about three cents lower than No. 2.

Average prices per bushel of No. 2 oats for six years:

1907—\$.42	1909—\$.40 $\frac{1}{2}$	1911—\$.34
1908— .43	1910— .35	1912— .41 $\frac{1}{2}$

Average prices per bushel of No. 3 barley for six years:

1907—\$.50	1909—\$.50 $\frac{1}{2}$	1911—\$.63
1908— .50	1910— .45	1912— .48 $\frac{1}{2}$

Average prices per bushel No. 1 flax for six years:

1907—\$1.22	1909—\$1.42	1911—\$2.28 $\frac{1}{2}$
1908— 1.15	1910— .95	1912— 1.93 $\frac{1}{2}$

* Not quoted by Winnipeg Grain Exchange.

The tariff of freight charges on grain from stations in Saskatchewan to Fort William or Port Arthur is from 16 to 20 cents per hundred pounds, or from 9 $\frac{1}{2}$ to 12 cents per bushel for wheat, from 5 $\frac{1}{2}$ to 7 cents per bushel for oats, from 7 $\frac{1}{2}$ to 9 $\frac{1}{2}$ cents per bushel for barley, and from 9 to 11 $\frac{1}{2}$ cents per bushel for flax. The rate of transportation is somewhat lower from Manitoba points, and higher from points in Alberta.

THE GRAIN MARKETING SYSTEM

In Canada all grain is sold according to grades established by law. The inspectors are government appointees; and decide the grade of all grain passing out of the country. The warehouse commissioner, whose office is at Winnipeg, Manitoba, is also a government official. He is not

allowed to have any pecuniary interest in the grain trade. In the performance of his duties under the Manitoba Grain Act, which governs the grain trade of the Prairie Provinces, he is required to have complete oversight of the grain trade generally, in order that it may be properly conducted.

Almost all of the grain of Manitoba, Saskatchewan and Alberta is handled through interior elevators. Some of these are owned by the farmers; but most of them are owned by grain dealers and milling companies. All grain dealers in the Province must be licensed and bonded, thus securing the farmer from loss through either dishonest intentions or financial embarrassment of the dealer. There are few stations in Western Canada at which there are not one or more elevators.

A farmer may deliver his wheat to the elevator and receive cash for it, or, if he prefers to hold his wheat for a time with a prospect of obtaining a better price, he may store it in the elevator and secure a storage ticket setting forth that he is entitled to a stated number of bushels of wheat of a certain grade. Or, if he prefers to load his grain into a car without dealing with the elevator he may do so. The farmer having even a few hundred bushels of grain to sell has the privilege of an alternative method of shipping. Loading platforms, from which a farmer may load directly into the car, have been erected at nearly all shipping points in order to facilitate the handling of grain. The railways are compelled by law to erect these loading platforms at any station from which wheat in carload lots is shipped.

SOME WESTERN CANADA GRAIN FACTS

	Land Area	Acres.
Manitoba		162,388,480
Saskatchewan		155,092,480
Alberta		160,755,200

Less than 10 per cent. of the arable land under cultivation in 1912.

Crop Statistics, Manitoba, Saskatchewan and Alberta

Year.	Bushels Wheat.	Bushels Oats.	Bushels Barley.	Bushels Flax.
1901.....	63,311,632	38,909,654	7,331,255	266,420
1902.....	67,034,117	45,139,455	12,718,839	722,625
1903.....	56,146,021	47,215,479	10,448,461	884,000
1904.....	54,390,678	44,620,520	10,920,850	535,542
1905.....	84,506,857	66,311,800	13,447,800	733,700
1906.....	94,201,984	94,244,000	16,888,000	1,023,510
1907.....	70,922,584	74,513,561	19,187,449	1,732,065
1908.....	96,863,689	108,987,855	24,050,645	3,165,320
1909.....	118,109,000	163,998,752	30,542,000	4,833,167
1910.....	101,236,413	108,301,090	16,993,170	4,038,950
1911.....	194,083,000	218,819,000	24,043,000	7,720,000
1912.....	183,367,000	221,857,000	26,671,000	21,534,000

The elevator storage capacity of Western Canada including Port Arthur, Fort William, Kewatin and points in Manitoba and the Territories.

has increased from 21,298,000 bushels in 1902 to more than 100,000,000 bushels in 1912, or approximately 500 per cent. in ten years. The wheat inspected at Winnipeg has increased from 51,833,000 bushels in 1902 to 143,682,750 in 1912. Flour milling daily capacity has increased from 41,530 bbls. in 1910 to 77,740 bbls. in 1912, and the daily capacity of oatmeal mills has increased from 1,425 bbls. in 1910 to 2,150 bbls. in 1912. It will be noticed that the milling capacity has practically doubled in two years.

PART II.

HOW TO OBTAIN LANDS IN WESTERN CANADA

The largest owners of land in Western Canada are the Dominion Government, the Government of British Columbia and the Canadian Pacific Railway Company. The former disposes of its land by granting free homesteads, and, in a very limited way, by selling the same under the "pre-emption" regulations. The Railway Company sells its lands to settlers on very liberal terms, and at sufficiently low prices to ensure rapid settlement.

CHEAPER THAN HOMESTEADS

A great many farmers visiting Western Canada in search of new homes, come with the idea of taking up Government lands under the Homestead Regulations. While, on the surface, it might seem paradoxical to argue that lands which are practically granted free are in the end more expensive than those that are bought and paid for, it can readily be shown that, with the liberal terms offered by this Company, the average farmer will be better off by purchasing railroad land. In the first place, he does not have to acquire land thirty to forty miles from transportation facilities in the hope of railways being ultimately extended. He can obtain land within a few miles of the railway, and in close proximity to a shipping point.

It will be easily understood that with the great rush of people that has taken place into Western Canada during recent years, all homesteads of any great value, within close proximity to transportation facilities, have long ago passed out of the hands of the Government, and such being the case it is submitted that it will pay the practical farmer better to purchase land close to railroads than to accept as a free gift a homestead, lying remote from transportation facilities, and perform the conditions imposed by the Homestead Regulations.

SYSTEM OF LAND SURVEY

MANITOBA, SASKATCHEWAN AND ALBERTA.—The old system of survey under which most of Manitoba is laid out, allows 99 feet for a road allowance around each section of land, which forms one mile square. The new survey system gives 66 feet only for roads around two

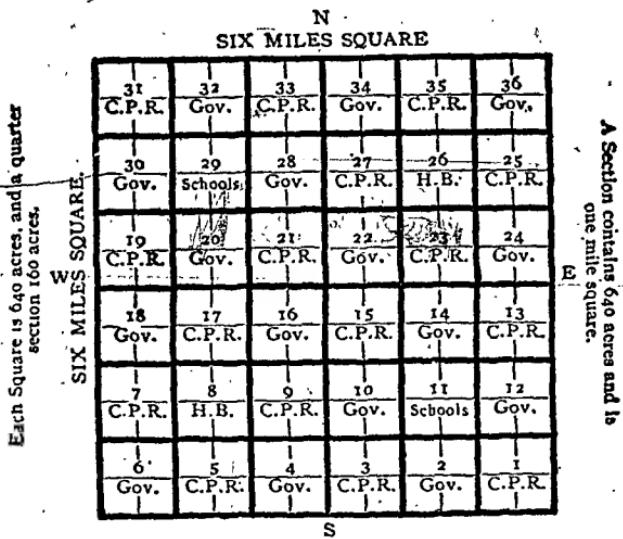
The Year's Reward Safe in the Shock



sections, viz., 1 and 12, 2 and 11, etc. In Alberta and Saskatchewan the latter system prevails.

The lands are laid off in townships, practically square in form. The tiers of townships are numbered from one upwards, commencing at the International Boundary, and lie in ranges from east to west, numbered in regular order westward from certain standard lines called principal meridians. Each township is divided into 36 sections containing 640 acres, more or less, divided by road allowances 66 feet in width. Each section is in turn divided into four quarter-sections of 160 acres each, which are designated the south-east, the south-west, the north-east and the north-west quarters. The corners of each division are marked on the ground by suitable posts, rendering it an easy matter to locate any particular piece of land.

The following is a surveyed plan of a township. In every township, sections Nos. 11 and 29 are reserved by the Government for school purposes, and Nos. 8 and 26 by the Hudson's Bay Company.



CANADIAN PACIFIC RAILWAY LANDS IN MANITOBA, SASKATCHEWAN AND ALBERTA

In consideration of the construction of the transcontinental line, which was completed in the early '80's, the Canadian Pacific Railway Company received from the Dominion Government twenty-five million acres of land in the Western Provinces. Under the terms of its agreement, the Railway Company had practically the privilege of selecting these lands from among the odd-numbered sections throughout Western Canada. It is the unsold portion of these lands in Western Canada that the Company now offers for sale.

The important point to bear in mind is, that all the Company's lands were selected in the early history of Western Canada, and the selection was made on the basis of a very thorough inspection. In other words, all the remaining land now owned by the Company is still the pick of an enormous area from which the Company had the privilege of selection.

GENERAL CONDITIONS OF SALE OF LANDS

1. Lands are sold only to bona fide settlers.
2. Not more than two sections, 1280 acres, will be sold to one purchaser.
3. Lands are sold on the basis of one-twentieth cash and the balance in 19 annual instalments with interest at 6 per cent. per annum. Purchasers who have complied with all the terms of their contract, after the expiration of five years, may make payment of the whole or any part remaining unpaid without notice or bonus.
4. The Company reserves all mines and minerals, including gas and petroleum.
5. Applicants must, by themselves or authorized agents, make personal inspection of the land they propose to buy.

SALE OF LAND FOR SETTLEMENT WITHOUT LOAN

1. Purchasers are required to enter into occupation within 6 months from the date of purchase.
2. Purchaser must undertake to build a house costing at least \$350 and a barn costing at least \$200, and capable of accommodating four horses and four cows.
3. Purchaser must agree to keep the buildings insured against loss from fire and must undertake to sink a suitable well, fence the land and break and crop a stated area in each quarter-section.
4. Purchaser must undertake to keep, during the entire period of his required occupancy of the land, at least three milch cows.
5. In lieu of cultivation and cropping of the land, purchaser may agree to maintain on the land a stated number of horses, cattle, sheep or hogs. Such animals must be the unencumbered property of the purchaser.

SALE OF LAND FOR SETTLEMENT WITH LOAN FOR IMPROVEMENTS

The \$2000 Loan to Settlers is absolutely the strongest, most positive and convincing answer to any and all questions as to the quality of the Canadian Pacific lands, and as to the profits that can be made in farming these lands. Think of this—if a farmer purchases 160 acres of these lands at \$20 an acre, his first payment on our twenty-year terms is only \$1 an acre, or \$160 on 160 acres. Now, against this investment of only \$160 in the land, the Canadian Pacific is willing to prove its faith in the productivity of the land by investing \$2000 in improvements on this land. And this investment is made absolutely without any security other than payment of one-twentieth of the price of the land and the amount of the loan. Seeing this, can any reasonable man doubt that the soil of the

lands offered is as rich or the profits that may be made are as great as the Canadian Pacific has always claimed they are? The conditions of this loan are:

1. Applicants for land on this plan must be married men having agricultural experience.

2. Applicants must have sufficient capital to enable them to pay the first instalment of one-twentieth of the purchase price of the land they select and one-twentieth of the amount of the loan desired, in addition to the amount necessary to maintain their families for one year from the date of their entry into occupation.

3. Applicants must own, free from encumbrances, sufficient horses, cattle, and other live-stock, or have sufficient means to purchase same, to enable them to go into occupation and proceed with the development of the land.

4. No application will be accepted for more than 320 acres.

5. The Company will, within a reasonable time after the acceptance of the purchaser's application, expend a sum not exceeding \$2,000 for improvements to the land, including a charge for supervision of five per cent. of the amount expended. Improvements will be made in the order following:

(a) The erection of a house. (b) The erection of a barn. (c) The fencing of the farm. (d) The providing of a well and pump.

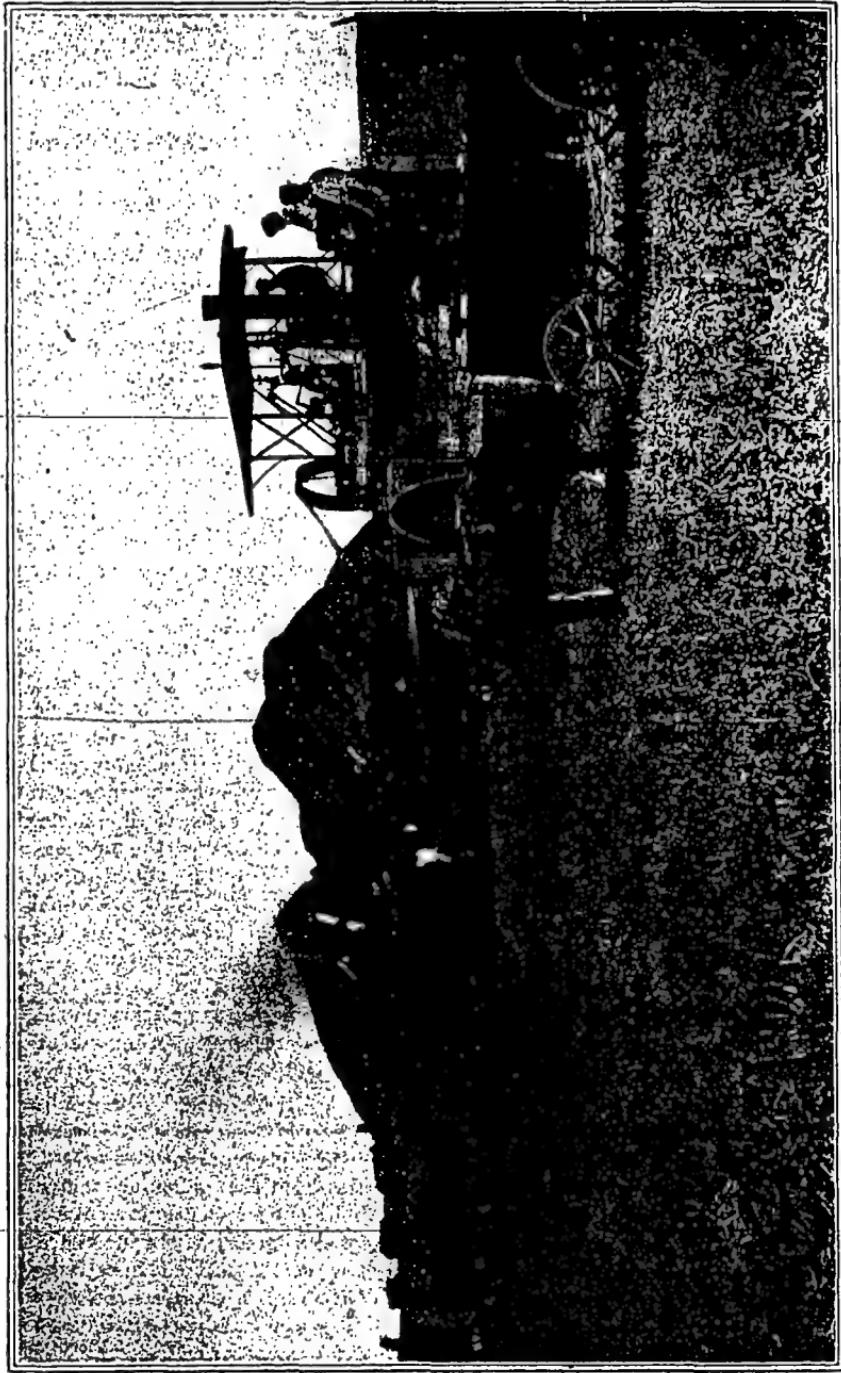
6. The character of the house and barn to be erected on the farm to be selected by the applicant from the standard plans of houses and barns erected by the Company. In the completion of these improvements the purchaser of the land, together with any stock and equipment he has, will, at the discretion of the Company, be employed in connection therewith, and be paid the current rates for same. The cost of all material and work will be paid by the Company and charged against the advance.

7. The total amount of the advance of \$2,000 will be added to the list price of the land and repayment of the same made in twenty equal annual instalments with interest at six per cent., at the same time and concurrently with the payments for the land as above referred to.

8. Purchaser must undertake to enter into occupation of the land with his family, if any, within six months from the completion of the improvements by the Company and must undertake to reside thereon continuously for five years, and to break, cultivate and crop certain stated areas in each quarter-section. He must also maintain, during such required occupancy on the lands, at least three milch cows for each quarter-section and must insure the buildings against loss by fire.

The advantages that come to the settler from this policy are many. Not only is he enabled to make a start with a much smaller outlay of cash than otherwise, but his family is also protected from any of the inconveniences generally incidental to establishing a new home. The cash he receives for helping in the improvement of the farm is always a welcome addition to his treasury and he is assured that the buildings on his land are of the class that long years of experience have proven best. The reduction in initial expense is considerable.

Threshing the Golden Grain. The Last Act of the Chapter



CANADIAN PACIFIC READY-MADE FARMS

In 1909 the Canadian Pacific Railway inaugurated what is known as its "Ready-Made" or Improved Farms policy. During that year, a number of farms were equipped with a house and barn, a well was drilled on each, the whole farm surrounded by a substantial wire fence, and fifty acres broken and seeded to crops.

In the spring of 1910, these were settled by a contingent of British farmers, who were personally conducted by the Company's agents from Great Britain, to the location of these farms. So successful was this colony that the policy was broadened, the buildings on subsequent farms improved, and the number of ready-made farms available for occupation increased.

Under the present arrangement, a settler steps from the train and proceeds immediately to a farm which is quite ready for him, and on which he may begin earning an income at once. The houses on these farms are superior to those of some settlers of many years' residence, while the barns are of a pattern most approved by progressive Western Canadian farmers.

These farms are sold on the twenty-year-payment basis. The price of the improvements is added to the price of the land, the whole being payable, one-twentieth cash and the balance in nineteen equal annual instalments, with interest at the rate of six per cent. per annum.

To begin with, these ready-made farms were established only in Alberta, but now the policy has been extended to include Manitoba, Saskatchewan and British Columbia as well. The farms in the Prairie Provinces are especially adapted to mixed farming, while those in British Columbia are designed for a combination of intensified farming and fruit-growing.

TOWNSITES

When a line of railway is definitely located and it is decided to build the same, the Company selects convenient townsites to serve the area affected by the railway. These townsites are subdivided and offered for sale to the public at a convenient place and at list prices. Lots undisposed of at this opening sale may be purchased through the Company's land offices in Calgary, Alberta; Lethbridge, Alberta; Saskatoon, Saskatchewan, and Winnipeg, Manitoba. An office for the sale of lots is also usually established in the town where the lots are located.

TERMS OF PAYMENT FOR TOWN LOTS

The Company has adopted uniform terms for the sale of its townsite property. One-third cash is demanded, and the balance in two equal instalments in six and twelve months from the date of purchase. The rate of interest charged on deferred payments on town property sales is 8 per cent. per annum.

MINERAL, COAL AND TIMBER LANDS

Mineral, coal and timber lands and quarries located on railway lands in Manitoba, Saskatchewan or Alberta, will be disposed of at reasonable

terms to persons giving satisfactory evidence of their intention and ability to utilize the same.

NATURALIZATION

It is not necessary for anyone purchasing or owning lands anywhere in Western Canada to become a British subject unless he so desires. The majority of those who have settled in the Canadian West from foreign countries have, however, become citizens.

TITLE

When you purchase land from the Canadian Pacific Railway you make your "Contract" direct with that Company, the deed to the land being made by them under the authority of what is known as the "Land Titles Act, 1894." The "Title" is perfect, and you are dealing with a corporation which has assets of hundreds of millions of dollars.

The Land Titles System of Western Canada was perfected and applied in the early stages of colonization, and is regarded as the simplest and most efficient in the world.

BRITISH COLUMBIA LANDS

Full information regarding British Columbia lands may be obtained by addressing the General Superintendent of Lands, Department of Natural Resources, Canadian Pacific Railway Co., Calgary; from the Provincial Land Department, Victoria, British Columbia, or from any of the following persons:

East Kootenay (Central)—R. R. Bruce, Invermere, B.C.

East Kootenay (Southern)—A. H. Webster, Cranbrook, B.C., and J. Austin, Elko, B.C.

West Kootenay—H. & M. Bird, Nelson, B.C., and Thos. Abriel, Nakusp, B.C.

Yale District—J. A. McCallum, Grand Forks, B.C.

The Company is also interested in the following townsites, where, in many cases, local representatives may be consulted as to price of lots and obtaining of application forms:—Cranbrook, Revelstoke, Nelson, Nakusp, Fort Steele, Creston, Elko, Proctor, Grand Forks, Kitchener, Bull River, Yahk, Eholt, Midway, Greenwood, Castlegar, Cascade, Columbia, Tochty, Swansea, Jaffray, Fort Steele Junction, Goatfell, Wasa, Kimberley, Arrowhead, Lardo, Gerrard, Kamloops and Vancouver.

ESQUIMALT AND NANAIMO RAILWAY LANDS

The Esquimalt and Nanaimo Railway Company owns nearly 1,200,000 acres of agricultural, timber and mineral lands on Vancouver Island, extending from Otter Point on the south-west coast to Crown Mountain in the Comox district, which include within their boundaries all the flourishing farming, mining, lumbering and fishing communities along the east coast and the line of the Esquimalt and Nanaimo Railway, a tract recognized to be the choicest portion of Vancouver Island. This large estate is being systematically explored and opened up by the Esquimalt and Nanaimo

Railway Company,—a regular passenger and freight service is now maintained between the City of Victoria and Port Alberni, on the west coast of the Island, and by a branch of the Railway between Duncans and Cowichan Lake, giving ready access to the magnificent timber lands and large areas of lands eminently suitable for fruit and mixed farming.

The Esquimalt and Nanaimo Railway is being rapidly extended on the east coast from McBride Junction to Courtenay (Comox) district, and will be in operation early in 1914.

Extension of this railway system to the north end of the Island will follow in due course.

Fuller information regarding these lands and the Company's town-sites may be had by application to The Land Department, Esquimalt and Nanaimo Railway Company, Victoria, British Columbia.

DOMINION GOVERNMENT LANDS IN MANITOBA, SASKATCHEWAN AND ALBERTA

FREE HOMESTEAD REGULATIONS

Any person who is the sole head of a family, or any male over eighteen years old, may homestead a quarter-section (160 acres, more or less) of available Dominion land in Manitoba, Saskatchewan or Alberta.

Entry.—The applicant must appear in person at the Dominion Land Agency or Sub-Agency for the district. Entry by proxy may be made at any agency, on certain conditions (which may be ascertained from the Secretary of the Department of the Interior or any Dominion Lands Agent), by father, mother, son, daughter, brother, or sister of intending homesteader. A fee of \$10 is payable with the application for homestead entry.

Homestead Duties.—Six months' residence upon and cultivation of the land in each of three years. A homesteader may live within nine miles of his homestead on a farm of at least 80 acres solely owned and occupied by him, or by his father, mother, son, daughter, brother or sister.

Pre-emption.—In certain districts a homesteader in good standing may pre-empt a quarter-section alongside his homestead. Price, \$3 per acre. **Duties**—Must reside six months in each of six years from date of homestead entry (including the time required to earn homestead patent) and cultivate fifty acres extra.

Purchased Homestead.—A homesteader who has exhausted his homestead right and cannot obtain a pre-emption, may take a purchased homestead in certain districts. Price \$3 per acre. Purchased homesteads may be acquired on any available lands on either odd or even numbered sections south of townships 45, east of the Calgary and Edmonton Railway and the west line of range 26, and west of the third meridian and the "Soo" railway line. **Duties**—Must reside six months in each of three years, cultivate fifty acres, and erect a house worth \$300.

Patent.—After the expiration of the period fixed by the Dominion Lands Act and the fulfilment of the required duties application should be made for the issue of a patent. Proof of such fulfilment must be made before the local Dominion Lands Agent or such other person as may be authorized by the Minister of the Interior. Failure on the part of an entrant for a homestead to apply for patent within five years from date of entry shall render the homestead liable to forfeiture. In the case of a pre-emption, failure to apply for patent within eight years from date of entry shall render it liable to forfeiture.

COAL AND MINERAL RIGHTS

Coal mining rights which are the property of the Crown may be leased for a term of 21 years, at an annual rental of \$1.00 per acre. Not more than 2,560 acres shall be leased to one applicant, which in surveyed territory must be contiguous and must be described by Section, Tp., and Rg. A royalty at the rate of five cents per ton shall be collected on the merchantable coal mined.

All applications should be submitted to the Agent of Dominion Lands for the district, in which the rights applied for are situated, and should be accompanied by a fee of \$5.00 in each case. The lease shall include the coal mining rights only, but the lessee may be permitted to purchase a certain area of surface at \$10.00 per acre.

Permits to mine coal for domestic purposes may be issued on application to the Agent of Dominion Lands for the district in which the lands are situated for an area not exceeding three acres, which area must previously have been staked out by planting a post at each corner. Rental, \$5.00 per acre per annum, and royalty 20 cents per ton anthracite coal, 15 cents for bituminous coal and 10 cents for lignite coal.

PROVINCIAL GOVERNMENT LANDS IN BRITISH COLUMBIA

The Government of British Columbia does not grant free homesteads. The fact of a person having a homestead in another province or on Dominion Government lands in this province, is no bar to pre-empting Crown lands in British Columbia.

Lands owned by the Provincial Government are laid off and surveyed in quadrilateral townships containing thirty-six sections of one square mile each, whenever it is practicable to carry this survey through.

HOW TO SECURE PRE-EMPTION

Any British subject, a widow, or single woman over eighteen years of age, who is self-supporting, or an alien who declares his intention to become a British subject, may take up pre-emptions in British Columbia.

Pre-emptions are free.

To take up a pre-emption of unsurveyed land, having located the quarter-section he wishes to occupy, the pre-emptor proceeds there and stakes it, and then records it in the Land Recording Division in which it is located.

Place a post four inches or more square and four feet or more high above the ground—a tree-stump squared and of the proper height will do—at one angle or corner of the claim, and mark upon it his name and the corner or angle represented, thus: "A. B.'s land, N.E. corner post" (meaning north-east corner, or as the case may be), and shall post a written or printed notice on the post in the following form:—

"I, A.B., intend to apply for a pre-emption record of acres of land, bounded as follows: Commencing at this post; thence north chains; thence east chains; thence south chains; thence west chains (or as the case may be)."

"Name (in full).

"Date."

After staking the land the applicant must make an application in writing to the Government Land Agent of the district in which the land lies, giving a full description of the land, and a sketch-plan of it; this description and plan to be in duplicate. The fee for recording is \$2.

He shall also make a declaration, in duplicate, before a Justice of the Peace, Notary Public, Commissioner, or British Columbia Land Surveyor, in Form 2 of the "Land Act," and deposit same with his application. In the declaration he must declare that the land staked by him is unoccupied and unreserved Crown land, and not in an Indian settlement; that the application is made on his own behalf and for his own use for settlement and occupation, for agricultural purposes, and that he is duly qualified to take up and record the land.

Pre-emptions cannot be staked by an agent.

If the land is surveyed, the pre-emptor must make application to the Agent exactly as in the case of unsurveyed land, but it will not be necessary to plant posts, and the references regarding staking in the declaration will be omitted.

Every pre-emption shall be of a rectangular or square shape, and 160 acres shall measure either 40 chains by 40 chains (880 yards by 880 yards) or 20 chains by 80 chains (440 yards by 1,760 yards); 80 acres shall measure 20 chains by 40 chains; and 40 acres, 20 chains by 20 chains. All lines shall be run true north and south and true east and west.

When a pre-emption is bounded by a lake or river, or by another pre-emption or by surveyed land, such boundary may be adopted and used in describing the boundaries of the land.

Sixty days from the date of the pre-emption record the pre-emptor must enter into occupation of the land and proceed with improving same. Occupation means continuous bona-fide personal residence of the pre-emptor or his family, but he and his family may be absent for any one period not exceeding two months in any year. If the pre-emptor can show good reason for being absent from his claim for more than two months, the Government Land Agent may grant him additional leave of four months. A fee of \$2 is charged for the permit. Absence without leave for more than two months will be looked upon as abandonment of all rights and the record may be cancelled.

No person can take up or hold more than one pre-emption.

The pre-emptor must have his claim surveyed, at his own expense, within five years from the date of record. Following upon the survey, if improvements to the value of \$5 per acre have been made, five acres being cleared, the pre-emptor may procure a Crown grant in fee-simple, on payment of a fee of \$10. The pre-emptor may secure the certificate of improvement and Crown grant after residence of three years.

Land recorded or pre-empted cannot be transferred or conveyed until after a Crown grant has been issued.

The fee on recording is \$2, and for every record or certificate of improvement, \$2.

Mineral, coal and petroleum, and natural gas which may be found under pre-emptions does not pass under grant of lands. Timber lands are not open to pre-emption; that is, lands which contain milling timber to the average extent of 8,000 feet per acre west of the Cascades (Coast Range), and 5,000 feet per acre east of the Cascades, to each 160 acres.

No Crown grant can be issued to an alien who may have pre-empted or recorded by virtue of his declaring his intention to become a British subject, unless he has become naturalized. Heirs or devisees of a settler are entitled to a Crown grant on his decease, providing application is made within a year and other requirements of the Act have been complied with.

THE PURCHASE OF CROWN LANDS

Crown lands may be purchased to the extent of 640 acres, and for this purpose are classified as first and second-class, according to the report of the surveyor. The minimum area that may be purchased shall be 40 acres, measuring 20 chains by 20 chains, except in cases where such area cannot be obtained.

Purchased lands may be staked by an agent.

Lands which are suitable for agricultural purposes, or which are capable of being brought under cultivation profitably, or which are wild hay meadow lands, rank as and are considered to be first-class lands. All other lands, other than timber lands, shall rank and be classified as second-class lands. Timber lands (that is, lands which contain milling timber to the average extent of 8,000 feet per acre west of the Cascades—Coast Range—and 5,000 feet per acre east of the Cascades—Coast Range—to each 160 acres) are not open for sale.

The minimum price of first-class lands shall be \$10 per acre, and that of second-class lands \$5 per acre: Provided, however, that the Minister of Lands may for any reason increase the price of any land above the said prices.

No improvements are required on such lands unless a second purchase is contemplated. In such case the first purchase must be improved to the extent of \$3 per acre before any steps can be taken to acquire the second.

When application to purchase unsurveyed land is filed the applicant shall deposit with the Minister of Lands a sum equal to 50 cents per acre

A Country Wonderfully Adapted to Field Roots and Gardening

on the acreage applied for. When the land is finally allotted the purchaser shall pay the balance of the purchase price. Surveyed land may be purchased by paying 25 per cent. of the purchase-money on application and the balance in three equal instalments, with interest at 6 per cent. per annum. This class of land it is not necessary to stake, nor is advertisement necessary.

The Government does not employ or authorize agents to sell land.

South African war scrip is not accepted in payment for Crown lands.

Timber-lands are not open for sale or pre-emption, but particulars relative to permission in regard to cutting from off Government timber lands may be had by applying to any Provincial Government Agent.

B.C. GOVERNMENT LAND AGENTS.—The following is a list of Government Agents with whom pre-emptions may be filed. Lands in out-lying districts in which there is no resident agent, are dealt with in the Land Department, Victoria, B.C., R. A. Renwick, Esq., Deputy Commissioner.

LIST OF GOVERNMENT AGENTS

J. Maitland Dougall	Duncan
John Kirkup	Alberni
John Baird	Cumberland
S. A. Fletcher	New Westminster
J. Mahoney	Vancouver
A. C. Nelson	Cranbrook
G. S. T. Alexander	Fernie
W. F. Teetzel	Nelson
R. J. Stenson	Kaslo
W. R. Dewdney	Greenwood
S. R. Almond	Grand Forks
R. Gordon	Revelstoke
C. W. Grain	Barkerville
E. C. Lunn	150-Mile House
J. Cartmel	Telegraph Creek
J. A. Fraser	Atlin
J. H. McMullin	Prince Rupert
S. H. Hoskins	Hazelton
E. T. W. Pearse	Kamloops
L. Norris	Vernon
Jas. R. Brown	Fairview
F. C. Campbell	Clinton
H. P. Christie	Ashcroft
T. W. Herne	Fort George
J. E. Hooson	Fort Fraser
E. W. Sandilands	Jedway, Q.C.I.
Geo. Thomson	Nanaimo

DOMINION GOVERNMENT LANDS IN BRITISH COLUMBIA

All the lands in British Columbia within twenty miles on each side of the Canadian Pacific Railway main line, called "The Railway Belt," are the property of the Dominion of Canada. This tract of land, with its timber, hay, water powers, coal and stone, is now administered by the Department of the Interior of Canada, Ottawa, Ontario, practically according to the same laws and regulations as are the public lands in Manitoba, Alberta and Saskatchewan, and is open to any male over 18 years of age or widow having a family dependent on her, who has not already under the homesteading regulations acquired land in any part of the Dominion of Canada. The minerals are administered by the Province under an arrangement entered into between the Provincial and Federal Governments. Government agencies are established at Kamloops and New Westminster.

PART III.**MANITOBA**

Manitoba commenced her separate existence with a population of some 12,000 people in 1870, and now is estimated to possess about 500,000 of a population, partly made up by immigration from the continent of Europe, as well as by settlement from the United States.

In 1878 the first railway entered this province, coming from St. Paul, Minnesota, to the little town of St. Boniface, from which transference was made to Winnipeg by ferry over the Red River. But the rising spirit of Canada, backed by the persistent outcry of Manitoba, demanded that a transcontinental railway should be built, which would connect Manitoba with the Eastern provinces. This was finally accomplished, and the first through train from Montreal to Vancouver passed through Winnipeg on July 1st (Dominion Day), 1886.

BOUNDARIES AND AREA

The Province of Manitoba was created and became a sister of the Confederation of Canada under an Act passed in 1870. The area of the province as then created was 13,500 square miles. The boundaries of the province have, however, recently been considerably extended so as to give access to the Hudson's Bay. The area now covered by this province is 253,732 square miles, which makes Manitoba approximately the same size as Alberta or Saskatchewan.

The province is bounded on the west by Saskatchewan, on the east by Ontario, on the south by the International Boundary, and extends north to the Hudson's Bay.

CEREAL PRODUCTION

Although the Province of Manitoba is the oldest settled of the Prairie Provinces, it is well within the truth to state that farming is as yet in its infancy. The area now under cultivation is an amazingly small percentage of the total area available for the production of crops.

In order to convey a correct idea of the agricultural wealth and productiveness of the province, statistics of yields of the principal grain crops for a period of twenty years are quoted on page 29.

SUMMARY

The following summary of yields per acre of principal grain crops in Manitoba, shows the situation in a nutshell and will convince the most sceptical that this province is one of the richest districts on the American continent. There can be no dispute in regard to accurate records covering a continuous period of twenty-seven years.

Wheat, average for 27 years, 18.39 bushels per acre.

Oats, average for 27 years, 35.60 bushels per acre.

Barley, average for 27 years, 29.87 bushels per acre.

Flax, average for 20 years, 13.16 bushels per acre.

COMPARATIVE STATISTICS

To those who have not studied the question with care, the foregoing figures lose much of their significance. It has, therefore, been thought well to establish a comparison between yields per acre of spring wheat in Manitoba and those of the principal wheat-producing States of the Union for a ten-year period:—

SPRING WHEAT PRODUCTION

	Average yield per acre	Ten years' 1912.	Average
All Canada	21.03	.....
United States	17.20	.....
Manitoba	19.44	17.53	
Minnesota	15.80	13.30	
Iowa	17.00	14.20	
North Dakota	18.00	11.60	
South Dakota	14.20	11.80	
Kansas	15.60	10.40	
Nebraska	14.10	12.80	
Wisconsin	18.50	14.50	

MIXED FARMING

Everyone who has given the matter any thought, has unhesitatingly counselled the farmer in Western America to discard the "one-crop system" and to engage more largely in animal husbandry, leading naturally to what is termed "diversified" or "mixed" farming. This advice is doubtless excellent, but does not always take sufficient account of local conditions. The opening up of a new country is always attended with

STATISTICS OF GRAIN PRODUCTION OF THE PROVINCE OF MANITOBA FROM 1883 TO 1912

Year	WHEAT		OATS		BARLEY		FLAX				
	Acreage.	Total yield bushels.									
1883	260,842	21,780	5,688,355	215,431	44	9,478,964	60,281	30			
1884	307,020	20,111	6,174,182	153,044	30	55	4,064,494	40,936	32	83	
1885	357,013	20,80	7,129,440	167,026	40	53	6,384,263	51,189	29	1,333,928	
1886	384,441	15,33	5,893,480	161,030	25	15	4,049,904	69,665	67	70	
1887	322,134	25,7	12,351,724	155,176	46	2	7,285,237	68,110	34	31	
1888	No statistics prepared for 1888.										
1889	632,245	12,4	7,201,519	218,744	16	8	3,415,104	80,238	31	33	
1890	746,053	19,65	14,665,769	235,534	40	2	9,513,433	66,035	25	6	
1891	916,684	25,3	23,191,599	305,644	48	29	14,762,605	38,828	35	6	
1892	875,990	16,5	14,453,835	332,974	35	1	11,654,060	97,644	3	19,876	
1893	1,009,640	16,56	15,616,923	388,529	25	28	9,823,935	114,762	22	11	
1894	1,010,186	17	17,172,832	113,686	28	8	11,907,854	119,523	25	87	
1895	1,040,276	27	86	31,775,038	482,658	46	73	22,555,733	153,839	36	69
1896	999,568	14,33	14,371,800	442,445	28	25	12,502,318	127,885	14	8	
1897	1,290,382	14,14	18,281,950	468,441	22	7	10,629,513	155,286	20	17	
1898	1,488,232	17,41	25,913,165	514,824	35	02	8,629,944	158,055	20	17	
1899	1,629,995	17,13	27,922,280	675,136	38	30	22,318,378	132,912	23	40	
1900	1,457,393	8,9	13,025,232	429,108	20	5	8,814,312	161,111	18	9	
1901	2,011,835	25,1	50,502,035	680,051	40	3	27,796,588	191,009	34	2	
1902	2,039,944	26	53,077,267	725,050	47	5	34,478,160	329,740	35	9	
1903	2,442,873	16,62	40,116,878	865,431	38	62	33,035,774	328,537	26	66	
1904	2,412,235	16,32	39,162,498	943,574	38	6	36,289,929	361,004	30	54	
1905	2,643,588	21,07	63,761,416	1,031,283	42	6	45,484,024	432,208	32	5	
1906	3,141,637	19,49	61,250,413	1,155,961	43	86	50,692,977	474,222	36	14,064,175	
1907	2,739,553	14,22	39,688,266	1,213,586	34	8	42,140,744	46,570	26	7	
1908	2,850,640	17,23	49,252,539	1,216,632	36	8	44,686,043	658,441	27	54	
1909	2,652,111	17,33	45,774,70	1,373,883	37	1	50,983,056	601,008	27	31	
1910	2,992,187	13,47	39,916,391	1,486,486	28	7	42,647,786	626,844	20,635	12,29	
1911	2,979,734	20,22	60,180,000	1,260,736	45	92	57,893,000	433,067	33	36	
1912	2,650,000	19,44	51,616,000	1,269,000	45	51	57,452,000	454,860	34	2	

*1912 figures are from Dominion Government estimate.

more or less wasteful methods. The "one-crop" system is one of them. The reply received by the Scottish Agricultural Commission to their enquiry as to why mixed farming was not largely practised was to the effect that grain growing had proved to be a profitable business, and most of the farmers were content, at present, to pursue that system of farming until such time as circumstances forced them into the more elaborate scheme involved in mixed farming.

There is another feature to take into consideration. A large majority of the early settlers were men with brawn and energy, but generally with exceedingly limited capital. On taking possession of the raw prairie they naturally looked to grain production to furnish them with the quickest cash returns. Furthermore, animal husbandry involved a certain amount of building investment, which was generally beyond the means of the pioneer.

THE GRADUAL EVOLUTION

Manitoba is the oldest settled of the Canadian Prairie Provinces and the change from the "one crop" to the "mixed farming" system, which is growing gradually all through the Canadian West, has naturally been more marked in that province than elsewhere. The following statistics show the expenditure incurred for farm buildings in the Province of Manitoba during recent years.

Year	Value	Year	Value	Year	Value	Year	Value	Year	Value
1900	\$1,351,000	1903	\$2,961,750	1906	\$4,515,085	1909	\$2,589,780	1910	3,546,539
1901	1,434,880	1904	2,950,710	1907	1,735,825	1911	3,273,487	1912	3,380,345
1902	2,228,875	1905	3,944,101	1908	2,954,490	1913			

The above figures show the growth that has been made more clearly than words could tell. The Province of Manitoba is now dotted with magnificent farm-steadings, including large and commodious barns, with every convenience for the care of the live stock.

LIVE STOCK STATISTICS

The following statistical table shows the increase in live stock in the Province of Manitoba between the years 1899 and 1912:

Year.	Horses.	Cattle.	Sheep.	Pigs.
1899	102,655	220,248	33,092	66,911
1900	118,629	237,560	25,813	77,912
1901	141,080	263,168	22,960	94,680
1902	146,591	282,343	20,518	95,598
1903	161,250	310,577	22,569	105,157
1904	143,386	306,943	18,228	118,986
1905	157,724	319,290	18,508	104,113
1906	164,444	363,202	16,806	120,838
1907	173,212	463,862	14,442	118,243
1908	169,905	415,483	16,924	120,384
1909	189,132	372,520	17,922	155,541
1910	232,725	397,261	32,223	176,212
1911	251,572	407,611	37,227	192,386
1912	273,395	429,274	42,085	216,640

Cattle Settin on Alfalfa Fields and also on the Prairie Grasses



During the period covered by the above figures horses increased in number over 100%, and cattle a little less. Pigs increased over 300%. The somewhat stationary condition of the sheep industry is accounted for by the fact that very few of the Manitoba farms are as yet enclosed with sheep-proof fences, which renders the handling of this class of live stock a somewhat difficult matter. During recent years the introduction of cheap woven wire fences on the farm has made a considerable difference, and it is certain that a large increase in the sheep stock of the Province of Manitoba may be looked for in the future.

FODDER AND ROOT PRODUCTION

The following statistics show the production of fodder and root crops during the year 1912 in Manitoba:

	Acres	Average yield	Total yield
Potatoes	51,878	206 bushels	10,734,612 bushels
Roots	14,109	276 "	3,895,118 bushels
Peas	2,936	21.7 "	63,713 bushels
Brome Grass	25,152	1.8 tons	47,337 tons
Rye Grass	17,473	1.6 tons	28,315 tons
Timothy	114,899	1.6 tons	192,783 tons
Clover	6,572	2.1 tons	13,806 tons

The high yields of clover are worthy of special attention. An attempt is being made to promote the introduction of clovers and alfalfa by the Provincial Government with very gratifying result. Every effort is made to induce the farmers to put in large areas of this crop, not alone in order to provide feed, but also to enrich the soil.

LIVE STOCK MARKETS

The chief live stock markets for Western Canada are located in the City of Winnipeg, Manitoba. Large union stock yards have been provided, and buyers are always present to take practically everything that is offered. All the export cattle from the West pass through the Winnipeg stock yards, and large shipments are generally sorted at that point. The farmer of Manitoba is in a very enviable position in regard to markets, as with the growth of the centres of population, the home requirements fully absorb the total live stock production of the province. There are also large abattoirs located in Winnipeg, which are continually being extended, in sympathy with the increase of the local demands for animal products.

DAIRYING

The following statistics of the production of dairy products in the Province of Manitoba from the year 1900 to 1912 show a very satisfactory progress of that industry:—

Year.	Pounds.	Butter.	Cheese.	Total Value.
		Value.	Value.	
1900.....	8,338,431	\$ 541,661.04	\$ 102,330.05	\$ 643,991.09
1901.....	5,208,740	837,964.69	88,348.32	926,314.10
1902.....	8,915,875	636,160.69	111,443.24	747,603.93
1903.....	4,271,703	707,346.98	151,362.28	858,709.26
1904.....	3,948,594	660,620.42	107,836.96	768,457.38
1905.....	4,160,956	769,591.15	127,346.49	896,937.64
1906.....	6,251,294	1,182,502.33	195,244.51	1,377,746.84
1907.....	4,816,244	1,048,585.29	168,997.20	1,217,582.49
1908.....	3,918,568	810,604.31	183,294.01	1,400,269.66
1909.....	5,616,427	1,208,187.20	163,330.20	1,371,517.40
1910.....	6,905,759	1,537,613.28	99,250.23	1,636,863.51
1911.....	7,638,406	1,715,982.62	70,090.63	1,786,073.25
1912.....	7,285,043	1,834,876.78	69,760.34	1,904,637.12

Manitoba has great advantages as a dairy country. The pasturage is rich and nutritious and contains an abundance of variously flavored grasses. The domestic water supply is excellent, and ample both for watering the stock and for use in the dairies, streams of pure running water being often available.

The Provincial Government established in 1896 a dairy school in Winnipeg, which proved a great success. Since the completion of the Agricultural College in Winnipeg, the staff in that institution has devoted special attention to the development of the dairy industry of the province, with considerable effect. The market prices for butter, cheese, cream and milk are as high as anywhere on the continent of America. At the present time enormous shipments of milk and cream are made from the States of Wisconsin and Minnesota to Winnipeg daily. Upon these shipments high duty is paid, which would leave an enormous profit for the producers within the boundaries of the province. The tendency to exclusive grain farming has seriously retarded the dairy industry. There is, however, a notable change, and with the advent of a greater population, thus solving the labor difficulty, great things are expected from the dairy industry of Manitoba.

POULTRY

The following statement shows the number of poultry disposed of during the year 1912 by the farmers of Manitoba. With prices of eggs soaring skywards and with dressed poultry, at times, almost impossible to obtain, there is little excuse for the Manitoba farmer tolerating the tremendous importation of eggs and dressed poultry that now takes place from various parts of America into the City of Winnipeg, and, for that matter, into other parts of Western Canada. The dry climate lends itself particularly well to poultry rearing, and the unlimited quantities of screenings and coarse grains available on every Manitoba farm, renders enormous expansion in this profitable branch of live stock husbandry an easy matter. This is another instance where the prosperous grain grower is ignoring the welfare of the farm to his detriment.

The Provincial Poultry Association has carried on exceedingly useful work by lectures and demonstration, and the output of the province each year shows a large, though not altogether satisfactory, increase. The following are figures for 1912:

	Turkeys.	Geese.	Chickens
1912	167,438	71,951	779,850

PART IV.

SASKATCHEWAN

The remarkable progress of the Province of Saskatchewan, which, previous to September, 1905, was part of the North-west Territories of Canada, might easily lead the casual visitor to doubt that the present wonderful development is the result of such a comparatively short period.

The few survivors of the countless herds of buffalo that roamed these plains, are now confined to the national parks and forest reserves. The red man, who regarded the broad expanse of plain and the endless winding river valley as his by right of inheritance, has been retired to the Indian reserve. The plains on which the buffalo thrived before the advent of the white man now support large herds of cattle and horses. The domain of the Indian has become the home of farmers from all parts of the world; and the cosmopolitan population gathered here under the sheltering folds of the Union Jack has proved to the world that these broad and fertile acres are indeed the "Bread Basket of the British Empire."

BOUNDARIES AND AREA OF SASKATCHEWAN

This Province lies between the 49th and 60th parallels of north latitude, and between the meridians of 102 and 110 degrees west from Greenwich. The southern border is the International Boundary, the dividing line between Canada and the United States. South of Saskatchewan are the States of North Dakota and Montana; east of it is the Province of Manitoba; west of it is the Province of Alberta, and on the north and northeast it is bounded by the unorganized Northwest Territories. Its greatest length is 760 miles; and its width on the south, is 393 miles. At the middle it is 300 miles wide, and at the northern boundary it has a width of 277 miles. The area of this great quadrangle is 250,650 square miles, of which 8,318 square miles is water. The land surface contains 155,092,480 acres.

NATURAL DIVISIONS

The Plains.—In the south, and extending as far north as Saskatoon, with the exception of a considerable district north of the Qu'Appelle Valley comprising the Beaver Hills, Touchwood Hills, etc., the country consists of open rolling prairie, gently rolling plain, dotted here and there with placid lakes and clumps of trees, with occasional stretches of open

level prairie, where the plain as far as the eye can reach is unbroken by slope or declivity and the gaze is unobstructed by even a single tree.

There are, however, in different parts of these divisions ranges of low hills intersected by ravines, many of which are well wooded and supply considerable quantities of fuel. The most important are: The Coteau, including the Dirt Hills, which extends from the International Boundary west of Estevan to a point beyond the Elbow of the Saskatchewan River; Moose Mountain, north of Arcola; Last Mountain, Touchwood and Beaver Hills, north of the Qu'Appelle Valley.

The Park Country.—North of Saskatoon and extending to the southern edge of the great northern forest which, in Saskatchewan, is bounded on the south by a line passing from Saw River north-westerly through the vicinity of Prince Albert, the country is mixed prairie and woodland, and is splendidly adapted for mixed farming and for stock-raising. As a home-making proposition, this part of Saskatchewan stands unequalled. Portions of the more heavily wooded area in the park country have been reserved from settlement by the Government in order to provide timber and game preserves.

The Ranching Country.—That lying to the west is perhaps the most suitable part of the province for ranching. In the districts west of the Coteau and south of the South Saskatchewan River the stockmen have until recently been permitted to pasture their herds in peace and were but little interested in the invasion of the homesteader. The domain of "King Wheat" has, however, gradually been extended and the arable areas are being made to yield their generous tribute of golden grain. The Cypress Hills, Wood Mountain, the Coteau and the more hilly areas intervening, will, however, always be the secure retreat of the rancher. There he may continue to produce some of the finest horses, sheep and beef-cattle in the world.

The Northern Forest.—North of the belt of mixed prairie and woodland, lies the great northern forest, the northern edge of which may be described by a line drawn from the northern part of Reindeer Lake to the southern part of Lake Athabasca. This timbered belt is covered with a forest of spruce, tamarack, jack pine, poplar and birch.

The remainder of this area is not thickly wooded, although black spruce, pine and poplar are found in the extreme northern parts of the province.

RAINFALL STATISTICS

This table is a compilation, averaged of all the available data respecting precipitation at all the meteorological stations in the province in each year since 1907. Snowfall is reduced to its "water equivalent," ten inches of snow being stated as one inch of rain.



Timothy and Western Rye Grass. Beef Cattle on the Prairie.

MONTH	1912	1911	1910	1909	1908	1907	Average precipitation for 10 years by months
January .....	.34	1.36	.38	.62	.29	.96	.70
February .....	.26	.44	.46	.36	1.14	.31	.66
March .....	.37	.35	.84	.53	.99	1.03	1.03
April .....	.52	.77	.55	.69	.84	.74	.72
May	2.92	2.73	2.07	2.46	1.13	.91	2.10
June	2.37	4.06	2.63	2.64	4.84	3.64	3.49
July	3.63	2.68	1.50	5.36	1.27	1.81	2.28
August	2.36	2.55	2.12	1.41	2.06	3.49	2.41
September	2.12	1.35	.97	.72	.62	1.41	1.65
October .....	.42	1.04	.29	.61	1.31	.29	.69
November .....	.33	1.13	.71	.99	.54	.12	.61
December .....	.44	.50	.96	1.62	.45	.29	.60
Total	16.08	18.96	13.48	18.01	15.43	15.00	17.00
April-September	13.92	14.68	9.84	13.28	10.76	12.00	12.69

AGRICULTURE IN SASKATCHEWAN

During the last five or six years millions of acres of land in Saskatchewan, that previously were regarded as of very little value for agricultural purposes, have proved their capability of producing magnificent crops of cereals. In the earlier years, the famous Indian Head and Pheasant Plains districts were regarded as unrivalled for wheat production, and while the results achieved by them in grain growing have assisted in no small measure, in making the Canadian North-west justly famous, it is now clearly demonstrated that extremely successful cereal production is not by any means confined to these areas. Similarly, future events may indicate that some of these tracts of land within the provincial boundaries, which are now believed by some to be better fitted for grazing than for agricultural purposes, are well suited to the growing and maturing of cereal crops.

KING WHEAT

It is a trite saying that "Wheat is the basis of all civilized existence." While there are more rice eaters than wheat eaters in the world, wheat is the chief grain food of the white man. There has been an almost universal increase in the individual consumption of wheat of late years. A few years ago the individual wheat consumer annually required six bushels of grain. The individual consumption to-day, however, is seven bushels per year. And while in 1871 the bread eaters of the world numbered three hundred and seventy-five millions, to-day they number five hundred and seventeen millions. In spite of the ever-increasing crop area of wheat, the point is gradually being reached when the world's production of wheat

will not more than keep pace with the demand. While the production in the United States has doubled during the past thirty years, the tendency at the present time is not towards any continued expansion. At the same time the population of the United States is increasing tremendously, and the point will soon be reached when that great country will become an importing instead of an exporting country. Less than a century ago, New York State was the chief wheat producing area of the United States, a fact that enabled Rochester to acquire the name of the "Flour City." The latter distinction is now held by Minneapolis, located some 1,500 miles further west. The time will come when the great flour producing centre of America will be located in the Canadian West.

SASKATCHEWAN—THE WORLD'S CHAMPION

It is no mean accomplishment of a Canadian province to stand the admitted champion in high quality wheat production for the continent of America, which is tantamount to the championship of the world.

This, however, is the honor Saskatchewan has gained. During the great Land and Irrigation Show, held in Madison Square Gardens, New York, in November, 1911, Mr. Seager Wheeler, of Rosthern, Saskatchewan, entered a sample of 100 pounds of Marquis wheat for competition for the one thousand dollar gold prize offered by Sir Thomas Shaughnessy for the best sample of wheat grown in America. Mr. Wheeler's wheat carried off the prize, and it is interesting to note that the second prize was won by Mr. W. J. Glass, of Macleod, Alberta, and the third prize by Mr. Thomas Maynard, of Deloraine, Manitoba. There were sixteen entries in all, three of which were from Canada.

It is worthy of note that Mr. Wheeler's wheat weighed six and one-half pounds per bushel above the average, that it had yielded the enormous quantity of 70½ bushels to the acre. Mr. Wheeler readily sold the balance of his seed at \$8 per bushel, and the 100 pounds he entered for competition more than repaid him the original purchase price of his farm.

In oat-production also Saskatchewan has established an enviable record. Messrs. J. C. Hill & Sons, of Lloydminster—a family of Englishmen who came to this country some ten years ago with the Barr Colony—have achieved the distinction of winning twice in succession the \$1500 trophy presented by the State of Colorado at the National Corn Exposition. The oats with which Messrs. Hill & Sons captured this coveted trophy are of the variety known as "Abundance," and weighed 54 pounds to the measured bushel.

LIVE STOCK

Although the live stock industry in the Province of Saskatchewan was, until the last rush of settlement, the principal industry of the province, at the present moment grain growing occupies the most prominent place in the farmers' operations in every part of the province, excepting the south-west corner, a district comprising approximately 25,000 square miles, and in the Touchwood Hills country lying north-east of Last Mountain

Lake. In those parts of Saskatchewan where grain growing has not yet become general and large herds of cattle and flocks of sheep remain on the open range the year round, ranching is still of prime importance. Throughout the remainder of the province, south of the 54th parallel of latitude, grain growing is now the principal business of the farmers; and the live stock industry is forced to take a secondary place and become but complementary to the other. Even in what has for many years been exclusively range country, the homesteader is rapidly pushing his way forward and the rancher is retreating farther and farther into the rolling and broken lands of higher altitudes, known as the Cypress Hills.

Mixed farming is, however, making great strides in certain districts, especially adapted to the raising of live stock, and these, generally speaking, are included in the great "park belt" or semi-wooded area tributary to the Saskatchewan River and along the Sheho-Lanigan branch of the C.P.R., and the main lines of the C.N.R. and G.T.P. railways. Here the land is less easily broken up and the temptation to risk all in a wheat crop is thereby somewhat reduced. The area runs in a north-westerly direction across the province and varies in width from 75 to 150 miles.

The following statistics, showing the number of head of live stock in the hands of farmers and ranchers in Saskatchewan and the annual increase during recent years, are of special interest. It may be taken for granted that the increase is generally due to the advance of the mixed farming system.

Year.	Milch	Other				
	Horses.	Cows.	Cattle.	Sheep.	Swine.	Poultry.
1901.....	83,461	56,440	160,613	73,079	27,753	
1906.....	240,566	122,618	360,236	112,290	123,916	
1908.....	343,863	179,722	565,315	144,370	426,579	3,411,052
1909.....	428,776	233,548	594,632	152,601	352,385	4,343,643
1912.....	592,220	258,235	562,590	128,198	324,880	4,795,954

CATTLE.—The cattle stock of the province, including milch cows, is increasing rapidly, having exceeded a growth of 375 per cent. in the eleven years from 1901 to 1912. Cattle raising was one of the earliest agricultural industries of Saskatchewan, and has been the foundation of many fortunes in the earlier days. Large numbers of cattle are raised in the "park country" throughout Saskatchewan, but the greatest number of beef cattle are at present raised in the ranching country south of Maple Creek and in the Wood Mountain and Touchwood Hills districts.

The newcomer is generally struck with the high quality of Saskatchewan beef cattle. One reason for this is the encouragement that has for many years been given Saskatchewan cattle growers by the old Territorial and present Provincial Governments. The Provincial Cattle Breeders' Association, with headquarters at Regina, was formed a number of years ago and has devoted special attention to the sale and distribution of pure-bred bulls throughout the province. The Association works in close co-operation with the Provincial Department of Agriculture and receives considerable assistance from the latter as well as from the Dominion Government. The leading feature of the annual pure-bred cattle sale

COMPARATIVE WHEAT STATISTICS

It has been shown in the foregoing that the Province of Saskatchewan holds the premier place in regard to the quality of her wheat. The following statistics will prove conclusively that this province ranks equally high respecting yield per acre in comparison with the principal wheat producing states of the Union and exporting countries throughout the world. Comparative statement of the average yield of wheat per acre, 1902-1912:

	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Saskatchewan	22.57	19.44	17.51	23.09	21.40	13.52	13.68	22.1	15.58	18.5	19.8
Kansas	10.4	14.1	12.4	13.9	15.1	11.0	12.6	14.5	14.04	10.7	16.6
Minnesota	13.9	13.1	12.8	13.3	10.9	13.0	13.0	16.8	16.0	10.1	15.8
North Dakota	15.9	12.7	11.8	14.0	13.7	10.0	11.6	13.9	12.8	8.0	18.0
South Dakota	12.2	13.8	9.6	13.4	13.4	11.2	13.0	14.1	12.8	4.0	14.2
Nebraska	20.9	16.7	13.6	19.4	22.0	18.1	17.0	16.4	12.0	10.0	14.1
Iowa	12.7	12.4	11.6	14.2	15.7	13.4	17.2	14.9	12.07	13.8	17.0
Russia	11.1	10.6	11.5	10.2	15.5	10.2	7.7	14.1	10.93	6.9	10.4
United States	14.6	12.9	12.5	14.5	16.5	14.0	14.0	15.8	14.1	9.4	17.2

STATISTICS OF GRAIN PRODUCTION IN THE PROVINCE OF SASKATCHEWAN FROM 1899 TO 1912

Year.	WHEAT			OATS			BARLEY			FLAX		
	Total acreage.	Total yield.	Average yield.	Total acreage.	Total yield.	Average yield.	Total acreage.	Total yield.	Average yield.	Total acreage.	Total yield.	Average yield.
1912	5,384,092	107,167,700	19.9	2,421,932	107,819,948	44.4	267,139	8,319,684	31.1	1,111,651	14,171,214	12.7
1911	5,232,248	96,796,688	18.5	2,192,806	98,676,270	45.0	244,993	8,859,804	28.0	932,406	10,887,701	11.3
1910	4,664,834	72,666,399	15.58	2,082,607	63,315,295	30.40	238,394	5,859,018	24.58	396,230	3,044,318	7.68
1909	4,085,000	90,215,000	22.1	2,240,000	105,465,000	47.1	244,000	8,833,000	32.1	319,100	4,448,700	13.9
1908	3,703,553	50,654,829	13.68	2,247,724	48,379,738	27.29	229,574	3,965,724	17.28	264,728	2,558,352	9.78
1907	2,047,724	27,691,601	13.52	801,810	29,09	72.9	79,339	1,350,265	17.02	128,528	1,364,716	10.62
1906	1,730,586	37,040,098	21.40	369,873	23,965,528	37.45	53,565	1,316,416	24.57	76,006	710,889	9.35
1905	1,130,984	26,107,286	20.09	449,936	10,213,055	31.70	32,946	893,396	27.11	25,315	398,389	15.73
1904	910,359	15,944,730	17.51	346,530	10,756,350	31.04	24,650	598,336	24.27	15,917	166,434	10.45
1903	777,822	15,121,015	19.44	280,096	9,164,007	32.71	27,679	665,593	24.94	31,644	285,697	9.02
1902	580,890	13,100,320	20.20	193,290	6,975,796	30.93	14,275	293,632	20.91	16,694	183,709	9.80
1901	469,963	11,956,069	25.41	123,251	5,517,866	44.76	11,267	354,703	31.48	.....	.....	.....
1900	382,540	3,443,971	9.00	96,173	1,604,561	16.68	8,303	150,822	18.16	.....	.....	.....
1899	328,459	6,083,508	18.49	83,465	2,518,248	30.17	7,656	160,604	20.97	.....	.....	.....

is the favorable transportation arrangements that are offered farmers who purchase individual animals or in lots smaller than full carloads. The Association undertakes the delivery of these pure-bred cattle to the purchaser's nearest railway station at a nominal charge.

Another feature that has promoted the production of high-quality cattle in the Province of Saskatchewan is the system of Government supported agricultural fairs that are held annually throughout the province. Among these might be mentioned the Provincial Fair at Regina, also the Moose Jaw, Saskatoon, Yorkton, Prince Albert and many other smaller exhibitions.

The market for cattle in Saskatchewan is excellent. The beef is generally bought on the hoof by the agents of the large cattle exporting concerns. A feature of the industry is the fattening of the stock on the mixed farm for disposal in the spring of the year when the ranching stock is seldom in fit condition to kill. A considerable number of Saskatchewan cattle are exported to the Pacific Coast, but the bulk are probably consumed locally and sold on the Winnipeg market.

SHEEP.—The raising of sheep is confined almost wholly to the south-western part of the province. Here large flocks ranging from a hundred to many thousands are run on the open range throughout the year. In 1901 there were 73,079 sheep in the province, and in 1912 the number was 128,198.

SWINE.—The swine industry has developed rapidly with the increase in settlement; and the number of hogs in the province increased from 27,753 in 1901 to 324,880 in 1912. Elevator screenings and low-grade grain furnish a cheap and satisfactory food for swine; and the wonderful development in grain growing will furnish a further impetus to this branch of the live stock industry.

From these figures it will be seen that while "wheat is king" the province produces a considerable amount of pork, of which large quantities are shipped east to Winnipeg annually. The future promises a great development of this branch of agriculture. The impetus given to wheat growing in the last decade by continued heavy yields of No. 1 Hard has served for the time being to attract farmers from the more sure and rational methods of farming, such as stock raising and mixed farming. But the pendulum should soon swing the other way; and when it does Saskatchewan will be as well known for her swine industry as she is at present famed for her large yields of wheat. The farmer will have solved the question of transportation when he is able to market his wheat on "four legs."

HORSES.—At the present time the draft horse is one of the greatest assets of the Saskatchewan farmer. With thousands of settlers coming into the province annually, bringing few, or in many cases no horses, there has in recent years developed a great demand for farm power. Steam and gasoline engines aid the prairie farmer on all sides; but the time has not yet come for these to supersede the horse in agricultural operations in any very marked degree.

The prices paid for horses are high. Many carloads of work horses are imported annually from Eastern Canada, and some are being brought



Hogs on the Western Canadian Farm afford Handsome Returns at small Expense

from the United States. The average price is about \$400 per team; but teams of sound, well-trained horses, weighing about 3,000 to 3,200 pounds per team will bring from \$400 to \$500 at five or six years of age. The coming to the province of large numbers of new settlers annually, many of whom, as before noted, expect to buy horses here, has made a splendid market, which Saskatchewan farmers should be able to supply. The prices that are being paid for horses in the other provinces, and the general scarcity of them at any price indicates that this industry will be a profitable one.

The Department of Agriculture has fully appreciated the opportunity to establish in the province a foundation stock of draft horses that will in future years furnish efficient farm power. In 1903 a Stallion Enrolment Act was passed, and the following year 303 pure-bred and 249 grades were enrolled. This number had increased in 1912 to 1,299 pure-breds and grades.

At the present time the Clydesdales of Saskatchewan are among the foremost in America. Several large breeders and importers have, at the head of their studs, stallions of great individual merit, which have stood at the top in many of the leading shows in Great Britain, the United States and Canada. The climate and soil are favorable to live stock husbandry; this system of farming must eventually be recognized as most important; the large extent of her arable land and the skill and enterprise of her people give promise that Saskatchewan, in the not far distant future, will vie with her older sister provinces in supplying live stock to the markets of the world.

DAIRYING.—Interest in dairying is constantly increasing because of the changed conditions arising out of the growth and development throughout the province. Many new settlers are coming from dairy sections in other provinces and states and these naturally favor mixed farming. Localities adapted to dairying are being opened up and provided with railway facilities, the demand for good butter is increasing, while the price remains firm and satisfactory. In recent years the supply has not been sufficient to meet the demand.

The present activity in co-operative dairying presents a marked contrast to that of a few years ago when the dairying branch of the Provincial Department of Agriculture was inaugurated. Most of the creameries are under the direct supervision of the Department of Agriculture, Regina, and the Minister of Agriculture, through the Superintendent of Dairying, supervises all business transactions with the exception of arranging for cream delivery. This particular part of the work receives the attention of the local board of directors. Butter sales are effected by the department and the advances on cream are made direct to the patrons twice each month. These advances are based on the wholesale price of butter at the time of payment and are forwarded regularly, even if the butter is not sold. They constitute an advance payment only, and at the end of the summer and winter seasons, which terminate on November 1st and May 1st respectively, the season's business is closed and, after deducting the actual manufacturing cost, the balance, if any, is forwarded to the patrons.

To assist in placing dairying upon a permanent basis legislation has been passed providing for a government loan of not more than \$1200 to any creamery company complying with certain regulations. The loan is repayable in five years and the rate of interest is three per cent. Among other things, the Act requires all companies to submit their plans and specifications to the department for approval. The location and site are also subject to the same conditions. When at all possible, centralization of creamery work is advocated and encouraged. This appears to be the solution of successful creamery work under our present conditions. It has a tendency to reduce the manufacturing cost and correspondingly increase the net returns to the farmers. It has the additional effect of minimizing the expenditure on capital account and having a large make of butter under the direct supervision of a competent manager, thus making uniformity in quality less difficult. The various forms of assistance which the government is extending are duly appreciated by the farmers throughout the province and there is every reason to believe that a live and enthusiastic interest is being developed with respect to this branch of farming. To an intelligent dairyman who will conduct his work according to modern methods, Saskatchewan affords opportunities almost unsurpassed.

PART V.

ALBERTA

With the Rocky Mountains to the west as a background and the International Boundary separating Canada from the United States to the south as a base, the Province of Alberta extends north and east, comprising an area greater than that of any country in Europe, save Russia, and more than twice the combined areas of Great Britain and Ireland. Its northern boundary, the 60th parallel of latitude, passes through the Shetland Islands and north of St. Petersburg; and its southerly boundary, the 49th parallel of latitude, passes south of the English Channel, through France a few miles north of Paris, through the southern portion of the German Empire, and through the middle of Austria Hungary. Thus the Province lies wholly within the north temperate zone, and the climate compares favorably with that of those European countries just mentioned.

AREA OF ALBERTA

Few people outside of the Province of Alberta have any adequate idea of its vast size. To grasp it, one must conceive of Canada with its 3,745,000 square miles of territory as larger than the continent of Europe, larger than the whole of the United States. One must regard the various provinces of Canada as budding young nations greater in size and richer in natural resources than many of the great nations of the Old World.

Alberta is larger than any state of the Union, excepting Texas. It is as large as the combined areas of California, Oregon and Washington, or the combined areas of Montana, North Dakota and Minnesota. It is larger than Germany, France or Austria-Hungary, and contains a greater proportionate area of agricultural land than these countries.

The province embraces 182,765,200 acres. Of this 1,510,400 acres is the estimated area contained in rivers and lakes, leaving 180,755,200 acres of land. Allowing the odd sixty million acres for the rough land of the eastern slope of the Rocky Mountains, other mountains and hills, together with waste places that will not likely be suitable for cultivation, there still remains the enormous area of One Hundred Million acres available for settlement. Of this only about 3,000,000 acres were actually in crop during 1913. In other words, only about three per cent. of the land available for cultivation in the province has as yet been brought under the plow.

NATURAL DIVISIONS

For the purposes of intelligent description, the Province of Alberta may be divided into the following sections, within each of which the system of agriculture is more or less universal:

1. **The Plains District.**—This area is bounded on the south by the International Boundary, and on the north by Township 32. It contains the famous Bow River Valley, and the Canadian Pacific Railway Irrigation Block. The plains district presents the usual features of the open prairie with tree growth along rivers and streams and throughout the foothills of the Rocky Mountains.

2. **The Park Country.**—This area is bounded on the south by Township 31, and reaches as far north as Township 62, about 50 miles north of the City of Edmonton. The country is dotted with groves of trees, interspersed with grass meadows. It is traversed from east to west by the North Saskatchewan and other rivers.

3. **The Forest Area.**—This is the great northern forest, and covers practically that portion of the province lying north of the park country. Here and there open prairie may be found in the vicinity of rivers, and in such places occasional settlement occurs. Otherwise, this area is entirely in virgin condition.

RAINFALL STATISTICS

The following statistics, showing rainfall in the Calgary district, compiled by the Dominion Government, cover a period of sixteen years:

Year.	Inches.	Year.	Inches.
1897.....	20.58	1905.....	16.51
1898.....	16.79	1906.....	16.14
1899.....	23.01	1907.....	16.45
1900.....	15.41	1908.....	17.96
1901.....	21.31	1909.....	16.15
1902.....	35.71	1910.....	11.89
1903.....	21.98	1911.....	20.04
1904.....	11.16	1912.....	21.30

CEREAL CROPS IN ALBERTA

Winter Wheat.—Winter wheat in Southern Alberta is one of the safest crops grown, and gives uniform and satisfactory results. Winter wheat is produced on summer-fallow land only, which ensures economy in time and labor. The crop ripens earlier than spring wheat, and its culture can be systematically pursued with the certainty that nothing will intervene to hinder each particular farming operation in good season.

By way of conveying information on the possibilities of winter wheat production, it may be mentioned that Mr. C. Nathe, of Macleod, threshed 3,700 bushels from 60 acres of land, being at the rate of 64 $\frac{1}{4}$ bushels per acre. A. E. Burnett, some 40 miles south of Calgary, threshed 4,280 bushels of winter wheat from 71 acres of land, or at the rate of 60 $\frac{1}{4}$ bushels per acre; and P. A. McAnally, near Crossfield, some twenty miles north of Calgary, threshed 596 $\frac{3}{4}$ bushels from nine acres, or at the rate of 66 $\frac{1}{4}$ bushels to the acre. Crops of from 48 to 55 bushels per acre are common, and a winter wheat crop of 35 bushels to the acre is not considered at all unusual.

Spring Wheat.—The prize wheat of the world at the Dry Farming Congress, 1912, came from Southern Alberta, and the wheat which won first place at the World's Columbian Exposition in 1893 was grown in the Peace River Valley, in Northern Alberta. When we consider that grain of such high quality can be grown at the extremities of the province, it speaks well for the possibilities of the crop throughout the whole land. It is grown successfully in all parts of the province, and each year sees a great increase in the area sown. The yields have been excellent, and when compared with those obtained in the neighboring States to the south of the line, have been uniformly higher.

Oats.—There is no section of the province where oats of the very highest quality cannot be produced successfully. The prize-winning sample of oats at the Paris Exposition was produced in Alberta. While the southern portion of the province has become famous as a section admirably adapted to growing a high quality of winter wheat, the central portion of the province has become equally well known as a district that grows large crops of a superior quality of oats. A yield of 115 bushels per acre is not uncommon in the central district, and from 50 to 60 is regularly obtained. While 34 pounds is the standard weight for a bushel of oats, those that won the first prize at the Provincial Seed Fair, weighed by the Dominion Grain Inspector for the province, tipped the scale at 48 pounds. The same official stated that Alberta was prepared to advocate a standard grade of oats calling for a weight of 42 pounds to the bushel, and also made the statement under oath that 85 per cent. of the Alberta oats examined by him would weigh over 42 pounds to the bushel. It is this fact which has led to the establishment in the province of large oatmeal mills. It is not unusual to see a large field of oats standing over five feet high. There is a large market for oats in the Province of British Columbia and the Yukon territories, also in the Orient, Eastern Canada and Great Britain.

Barley.—There are two varieties of barley produced in the province; the six-rowed barley, principally used for feeding purposes, and the two-rowed barley, utilized entirely for malting. The six-rowed is the principal barley crop in Central Alberta at the present time, and probably preponderates also in Southern Alberta, although the production of a high-grade two-rowed barley in the latter district is rapidly coming to the front. Barley is a heavy yielder in Alberta. Instances are on record where crops have threshed out as high as 78 bushels to the acre. The first prize barley at the International Dry Farming Congress, 1912, was grown in Southern Alberta and was subsequently sold to a firm of maltsters in Great Britain.

LIVE STOCK IN ALBERTA

HORSES.—In breeding horses, Alberta occupies a somewhat similar position to Canada that Kentucky does to the United States. Owing to the high altitude, dry and invigorating atmosphere, short and mild winters, the nutritious grasses and inexhaustible supply of clear, cold water, Alberta is pre-eminently noted for her horses, which have become famous for their endurance, lung power, clean bone, and perfect freedom from hereditary and other diseases. There are, in Alberta, several grades of horses, varying in point of quality from the hardy Indian pony (cayuse) to the beautiful, well-formed thoroughbred.

Heavy draft horses are now finding a ready sale at highly paying prices. Teams, weighing 3,000 lbs. and upwards, are worth \$500 and more. Between 2,500 lbs. and 3,000 lbs., the average price would be \$400, and the value of teams weighing between 2,000 lbs. and 2,400 lbs. is \$250 and upward, according to quality.

CATTLE.—Southern and Central Alberta have long been the recognized home of beef cattle of exceptional quality. The peculiar nutrition of the prairie and foothill grasses, the pure water and moderate climate, combine to favor the live stock industry. Of recent years, however, the converting of the large ranges into grain farms and the very rapid increase in population have had the effect of creating a comparative scarcity of beef stock, and prices have reached a figure which gives a very generous return to the rancher or farmer engaged in stock raising.

It is an interesting fact, that the City of Calgary is the home of the largest individual pure-bred cattle auction in the world. This takes place in the month of April each year, and on that occasion stockmen gather from far and near to purchase their bulls, and to transact other business. Shorthorns, Herefords, Polled Angus, and Galloways are the chief beef breeds, while Holsteins and Ayrshires are produced for dairy purposes.

SHEEP.—Sheep, in common with other stock, have always prospered on native Alberta grasses. With the growth of alfalfa and field peas on the irrigated lands will come a marked extension of the sheep raising industry, and the ever-increasing population in the eastern part of Western Canada, where stock raising is not so profitable, will forever guarantee a satisfactory market.

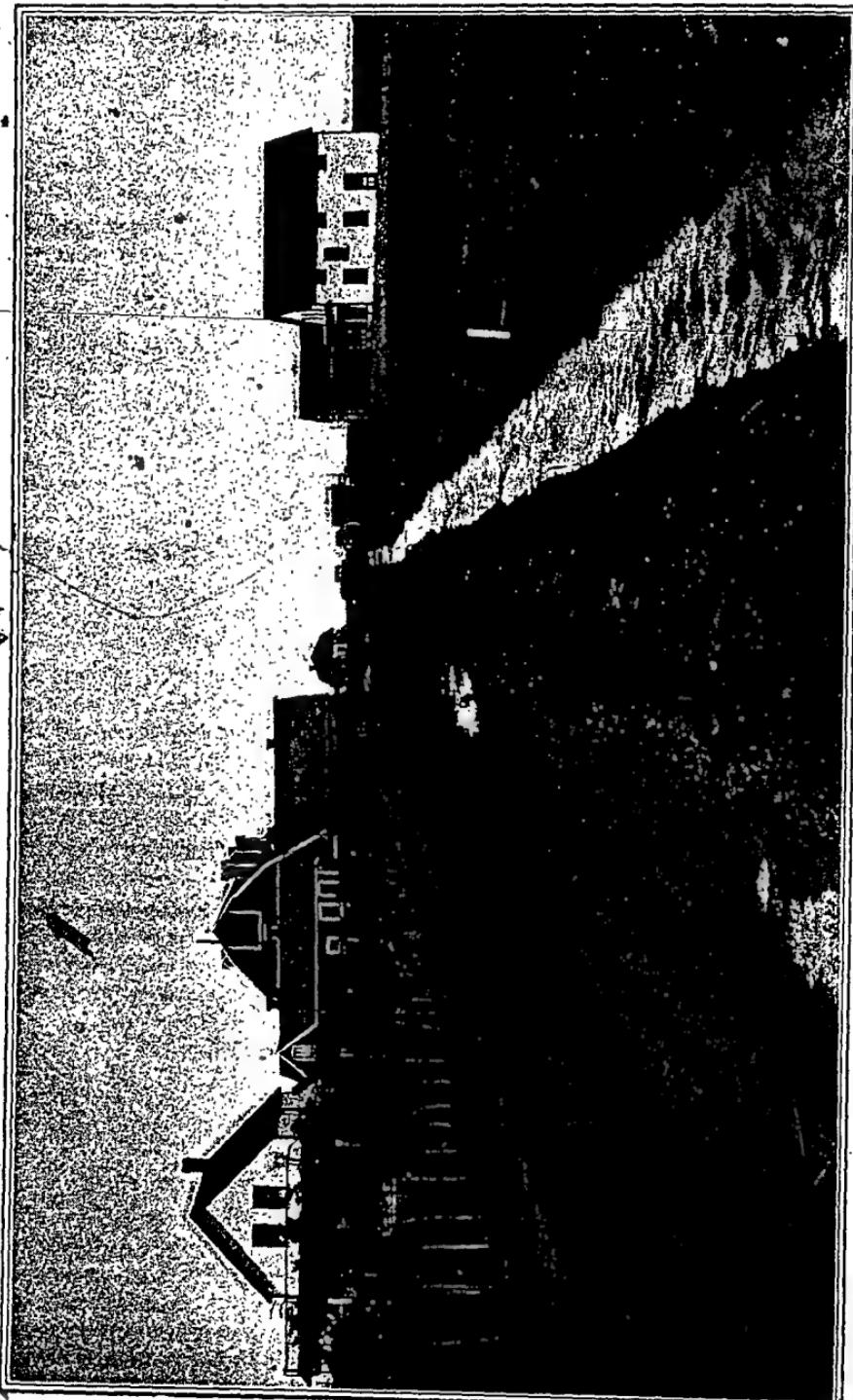
Horses, Cattle and Sheep are Reliable Profit Producers

Those engaged in sheep raising are enjoying unparalleled prosperity. Mutton and wool now command top prices. Flock masters in Alberta will not be affected for many years to come by the great fluctuations in sheep products. Woollen mills are being established in the West, and apart from the local demand there is a good market for mutton in British Columbia, the Yukon and the Province of Manitoba.

In the year 1910-1911, the huge sum of \$26,677,312 was spent on wool and its manufactures in Canada, yet the sheep industry is one that lends itself particularly well to development in the Province of Alberta and the other Western provinces. The report of the Commissioners appointed to investigate the sheep industry of Canada, Great Britain and the United States, published November 1st, 1911, discloses the fact that in Canada there were at the time of investigation, but 2,106,000 head; in Great Britain, 31,852,772; New Zealand, 23,792,947; Australia, 92,241,226 sheep of shearing age; Argentine, 67,211,754; and United States of America, 51,216,000, including lambs. The Province of Alberta, alone, could easily take care of all the sheep in the whole of Canada.

HOGS.—As might be expected in a district where the dairy industry is growing so rapidly, hog raising, affording as it does the most economical method of realizing the largest returns from coarse grain, skimmed milk, and other dairy by-products, is a very important branch of farming in Southern and Central Alberta. The soil conditions and the climate, which are so eminently suited for dairying, are also productive of those crops which make the cheapest pork. Calgary, the live stock centre of Alberta, has an excellent pork-packing establishment, where top prices are paid. The production of an acre of barley costs just about one-half of what an acre of corn does, and will fatten one-third more hogs. The cost of production of an acre of peas does not exceed \$1.50, only about one-fifth of what it costs to cultivate an acre of corn, and a fourth more hogs can be fattened from the produce of the same amount of ground. Pea-fed hogs are becoming famous all through America for the excellent quality of the bacon.

DAIRYING.—The Provincial Government maintains at Calgary the largest and most important "dairy station" and cold storage plant in the West. Creameries are subject to the control of the patrons, but are under Government direction. At the end of every month each patron gets credit for the equivalent of his cream in butter, a cash advance being paid him at once and the balance as the product is sold. Co-operation of creameries under Government direction has resulted in the production of butter of a high standard of quality, and has created an efficient and economical selling organization. The future of the dairy industry in Alberta is guaranteed by an abundance of the best fodder, consisting of native grasses supplemented by alfalfa and peas; fresh, pure water; efficient system of creameries under Government control manufacturing butter at cost, making cash advances to the farmer every month, and a home market already greatly in excess of the production, and constantly and rapidly expanding.



Irrigation Means Close Settlement, Intensified Agriculture, and Prosperous Farmers

POULTRY.—There is a large field in Alberta for the industrious poultry raiser. A few acres and a hundred chickens will yield a good income. With eggs at 25c. to 60c. per dozen, and dressed poultry at from 15c. to 25c. per pound on the Calgary market, little need be said about the profits of this valuable feature of the Southern Alberta farm.

Turkey raising has come to be an industry of importance. Thousands of these birds are grown and fattened for markets in the Coast cities and thousands of dollars are brought into the country every year through this business alone. Where large areas of wheat stubble may be utilized for forage ground, the expense of putting turkeys on the market is small indeed.

IRRIGATION IN ALBERTA

Irrigation has been proven an admirable adjunct to mixed farming in Southern Alberta, and as a consequence several extensive irrigation undertakings, covering some millions of acres of the most fertile lands in Canada, are now in course of completion.

THE BOW VALLEY "IRRIGATION BLOCK"

By an arrangement with the Dominion Government a large area of land lying along the main line of the C.P.R. east of Calgary was transferred to the Canadian Pacific Railway Company upon their undertaking to carry out a gigantic irrigation project on this land. Owing to its railway facilities, its delightful climate, and the fact that it immediately adjoins the thriving and rapidly-growing City of Calgary, this "Irrigation Block" comprises lands among the most desirable in America to-day. This irrigation project—the greatest on the American continent—is being pushed rapidly to completion, and a considerable area has already been opened to settlement. The block has an average width of 40 miles and extends from Calgary eastward 150 miles, with an area of 3,000,000 acres.

THE LETHBRIDGE IRRIGATION SYSTEM

This is the pioneer irrigation undertaking on a large scale in Western Canada. It was started in the year 1900, and was completed some years ago. This extensive irrigation system, which has been constructed at an expenditure of over \$400,000, draws upon an inexhaustible water supply in the St. Mary River, where the head works are located. The length of the canal system is 115 miles. Water is provided in never-failing abundance for the conversion of the region into one of rich, productive agriculture. The area under irrigation is about 100,000 acres. These lands may be purchased on application to the Canadian Pacific Railway, Department of Natural Resources, at Calgary.

The Lethbridge irrigation system is admirably served with transportation facilities. One railway line connects Lethbridge with the International Boundary and other lines traverse the centre of the district and serve the more westerly portion.

THE COMBINATION FARM

While it has been clearly demonstrated that the grain land in Southern Alberta is of the richest soil to be found, and, without the aid of irrigation, is producing maximum crops, there is, taken in connection with the production of winter wheat on non-irrigable lands, still more attractive and profitable opening for the new settler—the purchase of a "combination" farm.

Southern Alberta irrigated districts contain non-irrigable as well as irrigable areas, and offer to the purchaser an opportunity to engage in mixed farming under almost ideal conditions. Here can be secured in the same quarter-section, side by side, land lying above the canal system for the production of grain and the grazing of live stock, and irrigable land for other crops, such as alfalfa, barley, vegetables, etc., requiring abundant moisture. For farm purposes there is a never-failing supply of water, which ensures crops when the seed is placed in the ground, while the problem of a constant supply of water in every pasture for the use of the live stock is also solved.

The irrigated portions of the land will raise all kinds of grain and root crops and a sufficient supply of fodder for winter feeding.

The non-irrigated sections will grow winter wheat or furnish the finest pasture for live stock to be found in the world.

Combination farms may perhaps be regarded as one of the best agricultural propositions on the North American Continent.

THE VALUE OF IRRIGATION

An examination of the rainfall tables presented in this booklet will reveal the fact that there is a sufficient precipitation every year to successfully mature cereal crops such as winter wheat. But with the increase of population and prosperity more scientific methods of farming were naturally discovered and utilized, and the general introduction of irrigation marks an epoch in the history of Southern Alberta. As a matter of fact, farmers now are not satisfied with returns more or less in accordance with the accident of rainfall, but are aiming at perfection in the development and maturity of their crops. It would, therefore, appear to be a sinful waste not to utilize the means which have been placed at the disposal of settlers in districts favored with an adequate water supply to supplement the efforts of Nature. Having water available in his ditch or reservoir, the irrigation farmer is able to distribute it on his crop at such season of the year and in such quantities as experience has taught him are the most propitious to favorable results. He is not at the mercy of the weather. The contention of the experienced irrigationist is, that those farmers cultivating without the aid of irrigation in any portion of the world where water supply by gravity can be economically secured, are playing an unskillful game of hazard in trusting solely to the bounty of Nature and omitting to take such precautions as have been placed at their command. The irrigation farmer, on the other hand, controls his water supply absolutely, and has, other things being equal, a crop assured beyond all peradventure. In Southern Alberta the farmer is able to insure his crop against drought, just as effectually as he insures his life. Both are

designed to protect the prudent farmer and his family against losses from uncontrollable causes.

The sprinkling of a lawn, the watering of a plant, is irrigation in its simplest form. Without it the lawns and parks, which give to city life a touch of Nature's beauties, would be devoid of all that makes them attractive.

Although the rainfall in Alberta is not as heavy as in some agricultural countries, the fact that it is limited almost exclusively to the very months in which it is required for crop growing has made it entirely possible to raise all ordinary cereals in Southern Alberta without irrigation. In the earlier days, the fact that record-breaking averages were maintained without irrigation was used as an argument against the artificial distribution of moisture, but the experience of recent years in proving the extra productiveness of land under irrigation is removing that objection from the minds of any who entertained it.

Irrigation is now recognized, not merely as a means of making arid regions productive, but in its wider and greater application as a science of increasing the productiveness of all agricultural lands. It is not simply a device to flood the fields in dry seasons, but a practical means of controlling moisture, supplying much to crops that require much, and to other crops in proportion to their needs.

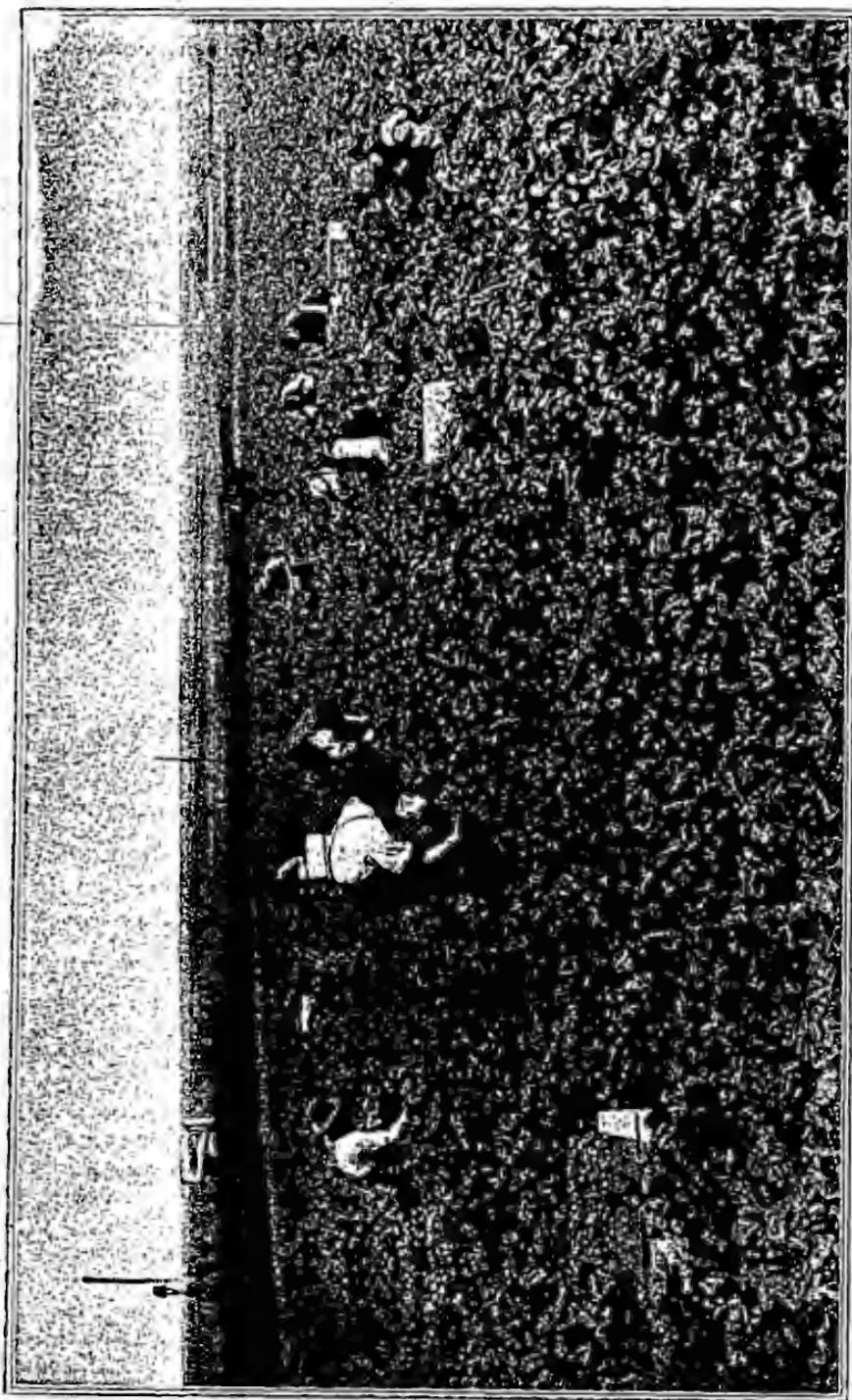
To ascertain just what benefits were to be derived from irrigation in a country where the natural moisture is sufficient for profitable crop-growing, a series of experiments was undertaken by the Dominion Experimental Farm for Southern Alberta. The farm is divided into a "dry" and "irrigated" section, and as it is the business of the manager to produce the best results possible on each section, the conclusions arrived at may be accepted as absolutely unbiased.

With this fact in mind the figures from the Farm Report furnish interesting and convincing reading. Comparing the results secured under natural rainfall conditions with results secured under irrigation, the following crops show, as the result of adopting the latter, the percentage of increase set opposite each:

Potatoes	260%	Mangolds	102%
Turnips	200%	Field Peas	73%
Sugar Beets	184%	Barley (two-rowed)	69%
Carrots	141%	Barley (six-rowed)	45%
Corn	128%	Spring Wheat	33%

"The highest yielding wheat under irrigation, covering two years results went $43\frac{1}{2}$ bushels per acre. The same wheat without irrigation yielded 33 bushels per acre during the same period. In six-rowed barley the figures were $61\frac{1}{2}$ and $48\frac{3}{4}$ bushels respectively. Two-rowed barley under irrigation yielded 65 and without irrigation $49\frac{1}{4}$ bushels per acre. Potatoes made a remarkable showing under irrigation. The figures were $646\frac{1}{2}$ bushels per acre as compared with $149\frac{1}{2}$ without irrigation. Sugar beets yielded $24\frac{1}{4}$ tons per acre under irrigation, and $6\frac{1}{4}$ without. Mangolds, 25 tons per acre and $13\frac{1}{2}$ without. Turnips about the same. Carrots 15 tons under water and $6\frac{1}{2}$ tons under dry land culture. Fodder corn yielded $15\frac{1}{2}$ tons under irrigation as compared with $6\frac{1}{4}$ tons without."

This Alberta Strawberry Patch Indicates the Possibilities of Fruit Culture



IRRIGATED EXPERIMENTAL AND DEMONSTRATION FARMS

As a general rule, once a corporation that is in the land business has sold a new settler a farm, its interest in the transaction ceases. The Canadian Pacific Railway Company is in an entirely different position. When a parcel of land has been finally sold, that Company's interest in the transaction does not cease. In fact, it only commences. The Railway Company is vastly interested in the success of every individual purchaser, who at once becomes a valued patron of the road.

The Company realizes that the bulk of the settlers coming into occupation on its irrigated lands, will be more or less ignorant of the proper methods of handling and applying water for irrigation, and it, therefore, places at their disposal expert advice and assistance. The Company operates, at central points, farms devoted to demonstrating the agricultural possibilities of the tract. The staff of the Company's Demonstration Farms is always ready to assist new colonists. On some of the farms are maintained pure-bred bulls and boars for the free use of the settlers. The maintenance of these demonstration farms is in line with the general policy of endeavoring to create prosperous agricultural communities in Western Canada. The Company realizes the difference between land-selling and colonization, and that a somewhat paternal administration accelerates the result the Company is striving for, namely, the greatest possible measure of development in the shortest possible time.

THE CANADIAN IRRIGATION LAW

It is of great importance that the laws under which irrigation is practised should be so framed as to avoid any litigation that might possibly arise over water rights. In many of the States of the Union where irrigation is in vogue more money has been spent in litigation over water rights than upon actual irrigation development.

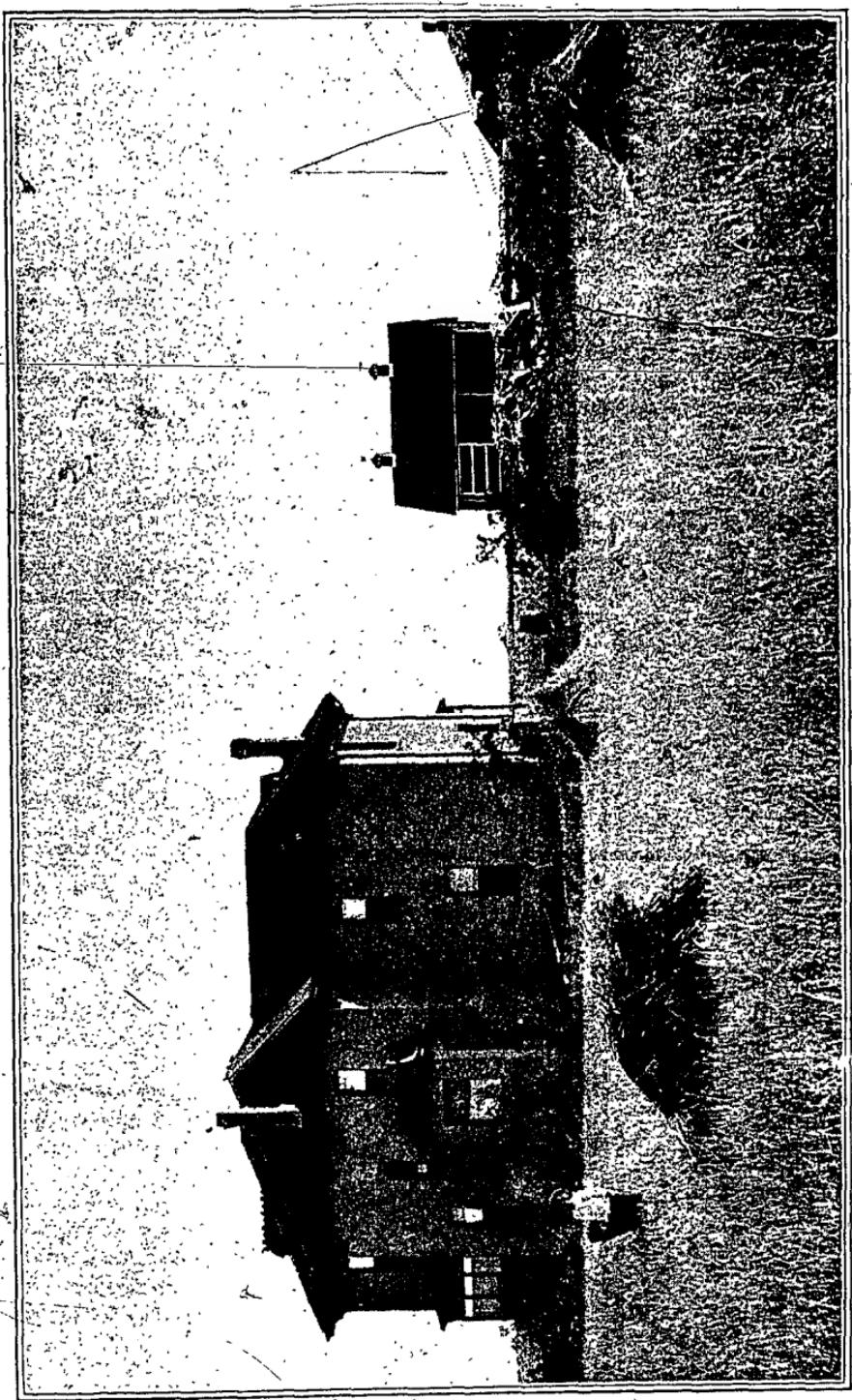
The Canadian irrigation laws and their administration are acknowledged by the leading irrigation experts of the continent to approach perfection as nearly as possible. The United States Department of Agriculture, in Bulletin 96 of that department, recommends the Canadian law to the consideration of those whose duty it will be to prepare irrigation laws in the future for use in those States where irrigation is practised or is likely to be practised. Under these laws, the waters of Alberta being recognized as the property of the Crown, the title given for a water right is equal to and as good as is the title given for land. It is not necessary to be a citizen of Canada in order to own land there.

ANIMAL HUSBANDRY

In studying the economic side of irrigation, the first fact that must be clearly grasped is that the backbone and foundation of any irrigation enterprise is not the production of either fruits, garden truck, or other expensive crops, but the feeding and finishing of live stock and the development of dairying in all its branches. This has been the history of irrigation expansion everywhere in the United States. The proof of this contention is that out of the total irrigated acreage in crops in the United States at the time of the last decennial census, sixty-four per cent. was in hay and forage crops.

SUMMARY OF THE ACREAGE AND YIELDS OF THE LEADING GRAINS IN ALBERTA DURING THE LAST 14 YEARS

Year.	SPRING WHEAT (Average yield, 19.86)		WINTER WHEAT (Average yield, 22.01)		OATS (Average yield, 36.56)		BARLEY (Average yield, 26.60)	
	Crop area in acres.	Total yield in bushels.	Crop area in acres.	Average yield per acre.	Total yield in bushels.	Crop area in acres.	Total yield in bushels.	Crop area in acres.
1912	1,256,200	27,059,000	21.64	161,000	3,515,000	21.83	1,359,300	174,900
1911	1,299,089	28,132,000	21.54	316,910	8,011,000	25.28	1,173,300	160,18
1910	450,493	5,607,956	12.65	142,407	2,206,564	15.48	942,580	184,34
1909	234,472	6,155,956	18.97	102,167	3,122,344	22.63	693,901	12,188,530
1908	212,677	4,001,504	18.81	104,056	3,093,422	20.47	431,145	15,929,974
1907	123,935	2,664,610	18.25	83,905	1,932,925	20.66	707,093	9,247,914
1906	115,502	2,634,661	23.07	61,635	1,301,359	21.11	335,728	3,136,913
1905	75,353	1,637,505	21.46	32,174	689,019	21.41	242,801	9,514,180
1904	44,411	786,075	16.58	8,236	152,125	18.33	180,546	6,603,496
1903	69,951	1,118,180	18.65	3,440	82,418	23.95	162,314	5,187,511
1902	45,064	50,122	18.86	...	...	...	118,997	31,195
1901	34,890	857,714	24.58	...	...	...	104,593	4,255,284
1900	30,361	583,805	19.22	...	...	...	177,816	2,625,581
1899	35,090	833,123	23.74	...	...	...	51,929	2,189,441



The Reward of Labor on Western Canada's Plains

PART VI.

BRITISH COLUMBIA

The Pacific Maritime Province of Canada, as British Columbia is often called, is a great quadrangle of territory, 700 miles long, and averaging 400 in width, lying between the Rocky Mountains and the Pacific Ocean. Extending north from the 49th parallel of latitude, it has a coast line of 450 miles on the Pacific Ocean, the northern portion being cut off from the sea by a narrow strip of Alaskan Territory. The boundary on the north is the 60th parallel.

NATURAL DIVISIONS

The Province may be divided roughly into three areas, each having its special characteristics, viz.:

1. **ISLANDS.**—The islands adjacent to the Coast, comprising Vancouver Island, the Queen Charlotte Group, and the innumerable islands of various sizes that dot the Coast line. Washed by the waters of the Japanese current, the climate is mild and moist, and the same may be said of the narrow strip of territory intervening between the Coast Range and the sea shore. This influence also affects to some extent the estuaries of the rivers flowing into the Pacific.

2. **INTERIOR PLATEAU.**—The great interior plateau, flanked by mountains on the east and west, and forming the southern half of the Mainland. This is elevated some 3,500 feet above sea level, and has been so deeply eroded by lake and river streams that in some parts it appears mountainous, but the absence of sharp edges to the hill tops and the innumerable rounded boulders point conclusively to the fact that at some remote period this immense area was the bed of a vast inland sea.

3. **THE NORTH COUNTRY.**—The northern half of the province is separated from the plateau by various cross mountain chains, from whence spring the head waters of the Peace River. Except in isolated patches, comparatively little is known of this area. The Coast Range of mountains forms a rocky frontier on the west, while the eastern boundary, following the 120th meridian of longitude, cuts the Rocky Mountains at the Peace River Pass, and continues north through a rolling prairie region that has never been thoroughly explored.

AREA

The area of British Columbia has been variously set down from 375,000 to 395,000 square miles. From careful surface measurements of the map the area is computed at 395,560 square miles, or 243,158,400 acres.

MARKETS

It is an axiom in trade that "there is no market like the home market," and in this respect British Columbia is singularly blessed, for there is no

country in the world which offers such exceptional advantages in the way of markets for farm products. The mining and logging camps, with which the whole country is dotted, employing thousands of men; the numerous working mines and smelters with their large staffs of employees; the railways, operating and under construction, and the lake and river steamers are all liberal patrons of the farmer at prices unaffected by competition, for imported articles do not disturb local trade, and in every case home products are preferred to those from abroad. The established cities and towns and the new ones which are constantly springing up, with the opening of new mines and the establishment of new industries, afford splendid markets to the farmer, who deals directly with the customer or retailer for cash—the trading system in vogue in older countries being practically unknown. Fruits and early vegetables, not disposed of locally, find an unlimited market east of the Rocky Mountains, and in the Coast cities of the province. Eggs, butter, milk and cream are always at a premium, the local production falling far short of supplying the demand. In many towns fresh milk is hard to get, and it is unknown in the mining, lumbering, and railway camps, where the imported condensed substitute is used. The importations of these articles into British Columbia for an average year throw light on the possibilities for dairying and poultry-raising in British Columbia. They are:—

Butter	\$ 1,345,739
Condensed milk and cream	676,000
Eggs	285,682
Poultry	1,113,400

If cheese, which is not made in quantity in British Columbia, be added, \$680,207, we have a total of over \$4,000,000 sent out of the Province annually for articles which can be profitably produced at home.

Again, in the matter of fresh meats and salt pork, ham, bacon, and lard, the yearly importations aggregate \$2,136,336, as well as \$800,000 worth of beef cattle, sheep and swine, all of which should be raised by the farmers of the province.

Although British Columbia has begun to export fruits, the home market falls far short of being supplied, for we find that in an average year the province imported \$800,000 worth of fruits and fruit products, viz.: apples, other fruits (not tropical), canned fruits, jams and jellies. The importation of apples may be partly accounted for by the demand in the early spring and summer months, when no home-grown stock is available, which has to be supplied from New Zealand and Australia. The "other fruits" represent the berries and early fruits grown in California and brought in before the local fruits have matured. The jams, jellies, and canned fruit, however, should and will be produced in the province as the fruit industry develops, and in good time all the other products of the ranch, farm, dairy, and orchard, of which the province now imports such large quantities annually, will be won from the fertile valleys and hill-sides of British Columbia. There is no fear of over-production in any branch of agriculture, for in the future, as in the past, the farmers will not be able to supply the ever-increasing demand created by the march of industry.

FRUIT GROWING

His Excellency Earl Grey, former Governor-General of Canada, who recently visited British Columbia, was greatly impressed with the future possibilities of the fruit industry. In his reply to the address of the Royal Agricultural Society, on the occasion of the opening of the New Westminster Exhibition, His Excellency said:—

"Fruit-growing in your province has acquired the distinction of being a beautiful art as well as a most profitable industry. After a maximum wait of five years I understand the settler may look forward with reasonable certainty, to a net income of from \$100 to \$150 per acre, after all expenses of cultivation have been paid.

"Gentlemen, here is a state of things which appears to offer the opportunity of living under such ideal conditions as struggling humanity has only succeeded in reaching in one or two of the most favored spots upon the earth. There are thousands of families living in England to-day, families of refinement, culture, and distinction, families such as you would welcome among you with both arms, who would be only too glad to come out and occupy a log hut on five acres of a pear or apple orchard in full bearing, if they could do so at a reasonable cost."

A few years ago the man who would have ventured to describe the Kootenays as fruit-growing districts would have been looked upon as a visionary or an imbecile; to-day Southern British Columbia is acknowledged to be the finest fruit country on the continent. Not only will it produce fruit in abundance, but the quality of its fruit is superior to that grown in any other part of America. Certain varieties of fruit attain perfection in certain localities—for instance, the Fameuse apple develops its best qualities on the Island of Montreal—but taking a collection of British Columbia fruit, it is larger, better colored, and better flavored than any similar miscellaneous lot, the product of any other country. Proof of this is not far to seek. In 1903, Messrs. Stirling and Pitcairn, of Kelowna, on Okanagan Lake, shipped a trial carload of apples to Great Britain. The shipment consisted of Spys, Baldwins, Ontarios, and Canada Reds. They arrived in Glasgow, Scotland, on November 9th, in splendid condition, and sold at 6s. per box, or about \$1 more per barrel than the choicest Eastern Canadian apples—reckoning three boxes and a half to the barrel. The British Columbia apples aroused much interest among fruit-dealers as well as consumers, and many letters were received by the consignors from persons eager to secure shipments of the splendid fruit. In the year following, 1904, the British Columbia Department of Agriculture forwarded a collection of British Columbia fruit to London, England, for exhibition purposes. The exhibit was greatly admired, and evoked the highest encomiums from the newspapers. The London Times, while hesitating to declare the fruit superior to the best English specimens, admitted that they very nearly approached them in color, shape, and flavor, even after having travelled 6,000 miles by railway and steamship. The Royal Horticultural Society's appreciation of the fruit was shown by the award of the Society's gold medal and diploma.

WHOLESALE PRICES OF FRUIT

The following table indicates the average prices of packed fruit in British Columbia:—

	High.	Low.	Average.
Apples, 40 pound box	\$2.00	\$0.60	\$1.30
Crab-apples, 40 pound box	2.00	1.00	1.40
Pears, 40 pound box	2.00	.60	1.45
Plums, 20 pound box	1.00	.50	.80
Prunes, 20-pound-box	1.00	.50	.70
Peaches, 20 pound box	1.25	.50	.70
Strawberries, 24 pound crate	2.85	2.00	2.45
Raspberries, 14 pound crate	2.00	1.50	1.70
Blackberries, 14 pound crate	2.40	1.50	1.65
Gooseberries, per pound .....	.10	.05½	.07¾
Cherries, per pound .....	.15	.03½	.09¾
Currants, per pound .....	.08	.04	.06

AN EXPANDING INDUSTRY

Figures furnished by railway and express companies show that fruit shipments have increased over 50 per cent. in five years, although these shipments are far from representing the whole crop, much of which is consumed locally or shipped by water routes, of which no record is available. The increase in fruit acreage has also been great in recent years; in 1891 it was 6,431 acres, and in 1901 it had only increased to 7,430 acres, but from 1901 to 1912 the increase was no less than to 46,000 acres. The approximate value of the fruit crop of 1902 was \$391,000, which by 1912 had grown to \$822,000.

The quality of the peaches and grapes grown in Southern British Columbia can scarcely be excelled, the crisp, dry air and bright sunshine combining to impart a lusciousness and flavor lacking in the fruit of hot-countries. The discovery of fig-trees growing wild on Vancouver Island, near Nanaimo, has suggested the possibility of the successful cultivation of this fruit, especially in the southern districts. Almonds, walnuts, chestnuts, nectarines, apricots, and some semi-tropical fruits have been successfully grown.

THE CAPITAL INVESTMENT

A few figures bearing on the cost of making the orchard, that is, bringing it to the point where it is revenue-producing, will not be out of place.

Irrigated Land

20 acres irrigated at \$250 per acre	\$5,000
Fencing	250
Preparing land, plowing and harrowing	150
Trees (yearlings), 80 per acre at 20c.	320
Setting out trees (1,600 at 8c. each)	128
	\$ 5,848

Maintenance for Five Years:

Average cost of irrigation at \$3.50 per acre	\$ 350
Cost of cultivation, pruning, spraying, etc., at \$30 per acre per year	3,000

	\$ 3,350
Making the total cost of the orchard at the end of the fifth year, when it should be beginning to give commercial returns	\$ 9,198

Non-irrigated Land:

In the case of unirrigated land, the cost would be approximately:—	
20 acres at \$200 per acre	\$ 4,000
Fencing	250
Preparing land, plowing and harrowing	150
Trees (yearlings), 80 per acre at 20c. each	320
Setting out trees (1,600 at 8c. each)	128

	\$ 4,848

Maintenance for Five Years:

Cultivating, pruning, spraying, etc., at \$30 per acre per year	\$ 3,000

Making the total cost of the orchard at the end of the fifth year, when it should be beginning to give commercial returns	\$ 7,848

Root crops and small fruits planted between the trees for the first three or four years should more than pay for the upkeep of the orchard.

The actual experience of many fruit-growers is highly satisfactory to them, and a temptation to every man who desires to make money pleasantly to set up in the business. In Okanagan there are instances of \$500 to \$600 gross profit per acre. At Kelowna 9 tons of pears and 10 tons of prunes per acre are not uncommon. Near Nelson, 14 acres produced 1,000 cases of strawberries and 94 tons of roots, netting the owner \$100 per acre. This land was formerly a cedar swamp. At Lytton, Tokay grapes, averaging four pounds to the bunch, were grown in the open. On the Coldstream Ranch, near Vernon, 20 acres produced \$10,000 worth of Northern Spy apples. At Peachland 1½ acres gave a return of \$700 in peaches. Tomatoes to the value of \$1,500 per acre were grown on Okanagan Lake. A cherry tree at Penticton produced 800 pounds of fruit; another, at Agassiz, 1,000 pounds.

In the suburbs of Victoria the following results are authenticated; Four acres of strawberries produced 28,126 pounds of fruit, which sold for \$2,598 net, or \$650 per acre; half an acre produced 2,826 pounds, giving a net return of \$301; another grower raised 12,556 pounds of berries on 1½ acres, which sold for \$1,228.60 net, or over \$800 per acre. Rockside Orchard, Victoria, produced marketable plums and cherries from ten-year-old trees as follows: Plums—35 trees Grand Duke, 442 crates, averaging 22 pounds; 18 Hungarian prunes, 216 crates; 27 Engelbert,

290 crates; 10 Tragedy, 142 crates—1,070 crates, a total of 20,416 pounds from 90 trees. Cherries—Twenty-five Olivet trees yielded 230 crates of 24 pounds, or a total of 5,520 pounds.

FRUIT GROWING AREAS IN BRITISH COLUMBIA

With such diversity in soil and climate it is unavoidable that British Columbia should be divided into a number of areas, each of which has its individual peculiarities, and so suited particularly to certain classes of fruit.

The main recognized fruit districts of the province are as follows:

1. Vancouver Island and adjacent Islands. Because of the mild and equitable climate this district has so far been more successful in small fruits than in large fruits. Peaches, grapes, apricots and other tender fruits are successfully cultivated in a small way in very favorable locations. Sweet cherries, plums and prunes do well, except when a moist season brings injurious fungous diseases. Some cherries have proven very profitable. Winter apples do not mature well except in most favorable locations, but all kinds of pears and several varieties of early apples are very successful. Strawberries and raspberries are usually successful and the fruit of a high quality.

2. The Lower Mainland is a district west of the Coast Mountains and adjacent to the Fraser River. Here the climate is mild and damp with a precipitation of from 50 to 70 inches per year. Fungous diseases are very prevalent in consequence of the damp climate, and the cost of fighting them is a large item of expense. The small fruits, such as strawberries and raspberries, do particularly well, however, and, because of the natural early season of the district, early apples, pears and plums usually yield good returns.

3. The district of the Upper Fraser up to the 52nd parallel and including the main Thompson River and Nicola Valleys is in the Dry Belt. Irrigation is essential, but fungous diseases are almost unknown. This district is proving more or less valuable for a wide range of fruits, but generally speaking, the growing of the hardier winter apples is the industry of greatest promise.

4. The country surrounding Shuswap and Adams Lakes, the Valley of the Spallumcheen River and the Armstrong district, has a total precipitation of from 18 inches to 25 inches, which, with its generally excellent soil, makes irrigation unnecessary for large fruits. The quality of the fruit is particularly high. The general climatic conditions are similar to those of Ontario, more so than in any other district in the province. The timber is not very heavy, and land clearing runs from \$50 to \$125 per acre. Winter apples have proven most remunerative. On suitable soils, celery, potatoes, etc., have made Armstrong famous.

5. The Okanagan Valley is the largest shipping district for fruit and vegetables in the province at the present time. Here all northern fruits are successfully grown, winter apples especially so, all under irrigation.

the rainfall running from 12 inches to 15 inches. This district is perhaps the most advanced in fruit growing in the province.

6. The Valley of the Similkameen and contiguous valleys are all in the Dry Belt. In this district the semi-tropical climate reaches up into British Columbia, and here European varieties of grapes and similar fruits are successfully grown. This is a large district, and has some very fine land ready for irrigation, but hitherto insufficient transportation facilities have hindered its general development.

7. The Boundary country is that of the Kettle River and its tributaries, and lies directly east of Similkameen. This also is in the Dry Belt, and is a fruit-growing area of good size. The industry is becoming well established and the Grand Forks prunes and winter apples are well known in the Prairie markets.

8. West Kootenay. This is a very large district most of which lies along the Arrow Lakes, Kootenay Lake, Slocan Lake and the south Columbia River. The rainfall is from 18 inches to 40 inches, and has resulted in a heavy growth of timber, the clearing of which is proceeding readily. The large mining camps in this district have so far consumed the great bulk of the fruit produced, but high quality winter apples will in a short time be produced in sufficient quantities to reach the markets of the prairies and Great Britain. Irrigation is necessary in this district only in the driest seasons and for small fruits.

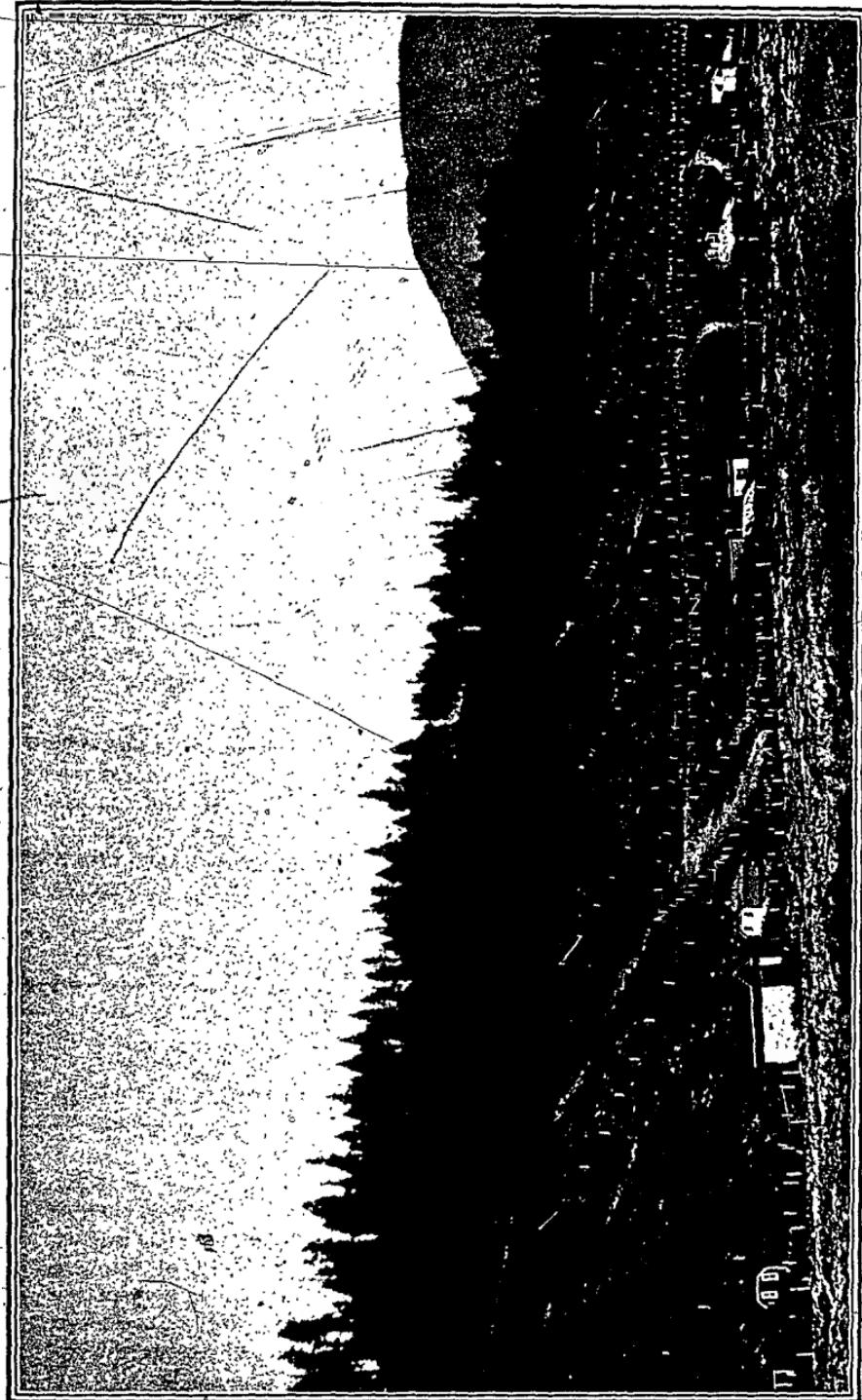
The above are all fruit districts which have been more or less proven by actual experience, and each markets its own special varieties. The following are other districts of which not so much is known:

9. East Kootenay. Lying directly east of West Kootenay from which it is separated by the Selkirk Mountains. This district includes particularly the upper reaches of the Kootenay and Columbia Rivers, including Windermere Lake. At present the district is largely devoted to cattle ranching. While the winter temperature will prevent the growth of the more tender fruits, the hardier apples have done well and more planting is being done each year.

10. The Northern Coast. Another immense section which has certain possibilities but in which little has been done is the big territory lying west of the Coast Mountains, all along the coast and including the Queen Charlotte Islands. The Department of Agriculture is undertaking the planting of a number of trees at various parts in the territory for experimental purposes, from which more will be known in a few years.

11. The Northern Interior. This vast territory, including the Valleys of the Skeena, Bulkley, Nechako, Nass, etc., has aroused considerable interest because of the building of the Grand Trunk Pacific through it. Excellent fruit has been produced in the Kitsumkalem Valley and Lakelse Lake districts, and settlers are taking in with them many thousands of fruit trees at the present time.

While it is doubtful whether the northern interior will be good for the production of the more tender varieties of fruit, there will undoubtedly be considerable success with the hardier kinds of pears and apples.



Ready-made Farms in Mission Colony, British Columbia

JAFFRAY FARM PLOTS

Adjoining the townsite of Jaffray, British Columbia, which is situated on the B.C.S. Railway, about 30 miles south-east of Cranbrook, and in the centre of a thriving lumbering and rich farming district, the Company has for sale plots of from 7 to 13 acres at prices varying from \$900.00 to \$1,500.00 per plot. These plots are sold on deferred payments, one-twentieth down, the balance in nineteen equal yearly instalments with interest at 6 per cent. per annum. Two acres in each plot have been stumped and ploughed, and the balance cleared of all under-brush and timber. The land is free of rock, the soil good and eminently suitable for fruit and vegetable growing. There is a ready market for all kinds of farming produce in the immediate neighborhood.

Fuller particulars, together with price list and blue prints showing location, may be obtained from the General Superintendent of Lands, Department of Natural Resources, Canadian Pacific Railway, Calgary, Alberta.

MORRISON COLONY FARMS

The Canadian Pacific Railway have established twelve farms which are known as the Morrison Colony farms, the areas varying from $11\frac{1}{2}$ acres up to 27 acres. All the land has been stumped and ploughed, and each farm fenced with five strand woven wire with necessary gates. A bungalow containing three rooms, and a barn capable of housing seven head of stock have also been erected on each farm.

The Colony lies in the Columbia-Kootenay Valley, and is bounded on the north by the Kootenay River, and on the south by the British Columbia Southern Railway (the Crow's Nest Branch of the C.P.R.). It has been laid out so as to give each settler a portion of bench land on which he can grow apples and small fruits, the balance being bottom land with a frontage on the Kootenay River, being suitable for mixed farming or truck gardening.

The site of the Colony was chosen on account of its suitableness for the purposes intended, and it can be safely said that the location is as near ideal as could be imagined. Market for all kinds of produce is to be found right in the immediate district, and transportation is at hand by rail or by road. It should be mentioned here that a road has been laid out and joins the trunk road running through B.C. to the Prairie Provinces, and on each sub-division the bench has been graded, thus making it an easy matter to haul produce from the land to the road.

The towns in the district are as follows:—

Cranbrook, situated about 17 miles west on the British Columbia Southern, is the commercial centre and distributing point for the district. Its development is assured by the many industries tributary; for example, that of lumber, comprising some 25 saw mills. The continuance of this industry is assured for many decades by the great wealth of the forests. The city has two good newspapers, printing plants, numerous well-appointed stores, sash and door factories, brick yards, steam laundry and foundry. It has an excellent electric light system which is in a position

to furnish electricity for power. It has a municipally-owned gravity water system, and a sewage system in course of construction. The telephone system for the district centres here and furnishes remarkably cheap communication between all points in the district, and its trunk line connects with the Western States on the one side and the Prairie Provinces on the other. At Cranbrook also is the divisional point of the Canadian Pacific Railway and the headquarters of the Superintendent and Resident Engineer. From this point is operated the North Star branch, the C. & E. Railway, Macleod to Calgary.

Fort Steele, on the Kootenay Central, about 12 miles north-west of the Colony, is a mining town doing a small but steadily increasing business, its prosperity being assured by the mining and gradual settlement of the surrounding country.

Wardner, located about five miles east of the Colony on the British Columbia Southern, is the centre of a large lumbering industry.

There are numerous other towns both east and west of the Colony, all busy centres of lumbering and mining industries.

Almost directly opposite, on the north bank of the Kootenay River, lies the new townsite of Bull River, where the C.P.R. have established a large lumber mill for the manufacture of ties and other lumber for their right-of-way. In the immediate vicinity the Company have extensive timber lands. Bull River is on the Kootenay Central Railway, the new branch now in course of construction by the C.P.R. from Golden on the main line traversing the whole of the vast Columbia-Kootenay Valley, and linking up with the British Columbia Southern at Jukeson, which is about eight miles south of Bull River Townsite. It is expected that this new branch will be completed within the next 12 months, which will be the means of opening up the Valley and greatly assisting the mining industries, there being several in the Valley which are only partially developed, and only wait means of transportation.

Mayook is the nearest station on the British Columbia Southern, being only $1\frac{1}{4}$ miles distant, thus giving easy access to the western towns, and also the prairie markets, and coal mining centres of the Crow's Nest Pass to the east.

The scenery all through the Valley is very beautiful, game of all kinds is plentiful all through the district, and excellent fishing is to be had in the river. In the fall of the year, too, boating may be indulged in.

The climate is healthful, and enjoyable at all seasons. Blizzards and cyclones are unknown, and bright sunny weather, winter and summer, is the rule. The summers are dry, with occasional hot days, but the heat being dry, is not oppressive. It is modified by light winds passing over the glaciers and snow-caps of the mountains, and the nights are always cool. The winters are dry, crisp and bracing, clear skies, and bright, sunshiny days and calm starry nights prevailing.

DAIRYING

Dairying in British Columbia should be one of the leading agricultural industries. A large proportion of the now settled portions of the Province

are richly endowed by Nature with the necessary soil and climatic conditions for the development of this industry. The market is scarcely excelled by any country in the world, and, as a consequence, prices for dairy produce run high. Along with this high price of the product we find that the price of concentrated food stuffs and labor are high. But to offset this very large quantities of hay and grain can be grown per acre. The winter season is not long, for scarcely a day passes that cattle cannot go out; and for a large portion of the year can obtain some food. The buildings for housing cows do not need to be built so warm and the question of ventilation, is a minor one. Labor on a dairy farm is easier to hold because it can be engaged for and very profitably employed during the entire year.

As the land increases in value more intensive methods of cultivation are being used, and this adds greatly to the dairy industry, by giving a larger production of the product in a smaller area, thus decreasing very much the cost of manufacture and delivery of the product to private and co-operative concerns, as well as the individual:

The great increase in the population of the Province, and of the cities in particular, has to some extent changed the character of the dairy business, especially that of the manufacture of butter and cheese. The country surrounding the towns and cities is being opened up by suburban lines, both electric and steam, and as the cities are calling for more and better milk a great many patrons of creameries have now placed at their doors open markets for milk and sweet cream. This has been taken advantage of by many during the last year, and as a result the manufacture of butter does not appear to be as great as in former years. Most of the creameries outside of this influence have reported this year an increase in production, and considering the greater number of people that are using milk and cream we must conclude that the industry is still growing and must of necessity grow much larger.

The British Columbia Dairymen's Association, by its increased membership this year, shows to a certain extent the advance movements in this industry. The Association is now on a more prosperous basis than ever before and is effectually attacking many of the problems and aiding financially and otherwise many of the difficulties that confront the dairymen. To a certain extent it is assisting in the educational work and in promoting the interests of the dairymen in general.

According to figures secured by the British Columbia Department of Agriculture the creameries of that province in 1912 produced 1,280,000 pounds of butter for which an average price of 38 cents per pound was received.

LIVE STOCK

A new era in agricultural development in the Province of British Columbia is approaching and conditions pertaining to the live stock industry are rapidly improving. An increased interest in stock raising is being exhibited on every hand. Particularly is this to be seen in the breeding of heavy and light horses, dairy cattle, and poultry.

As a comparatively new province, British Columbia is developing rapidly. With the enormous increase in the population of the larger cities

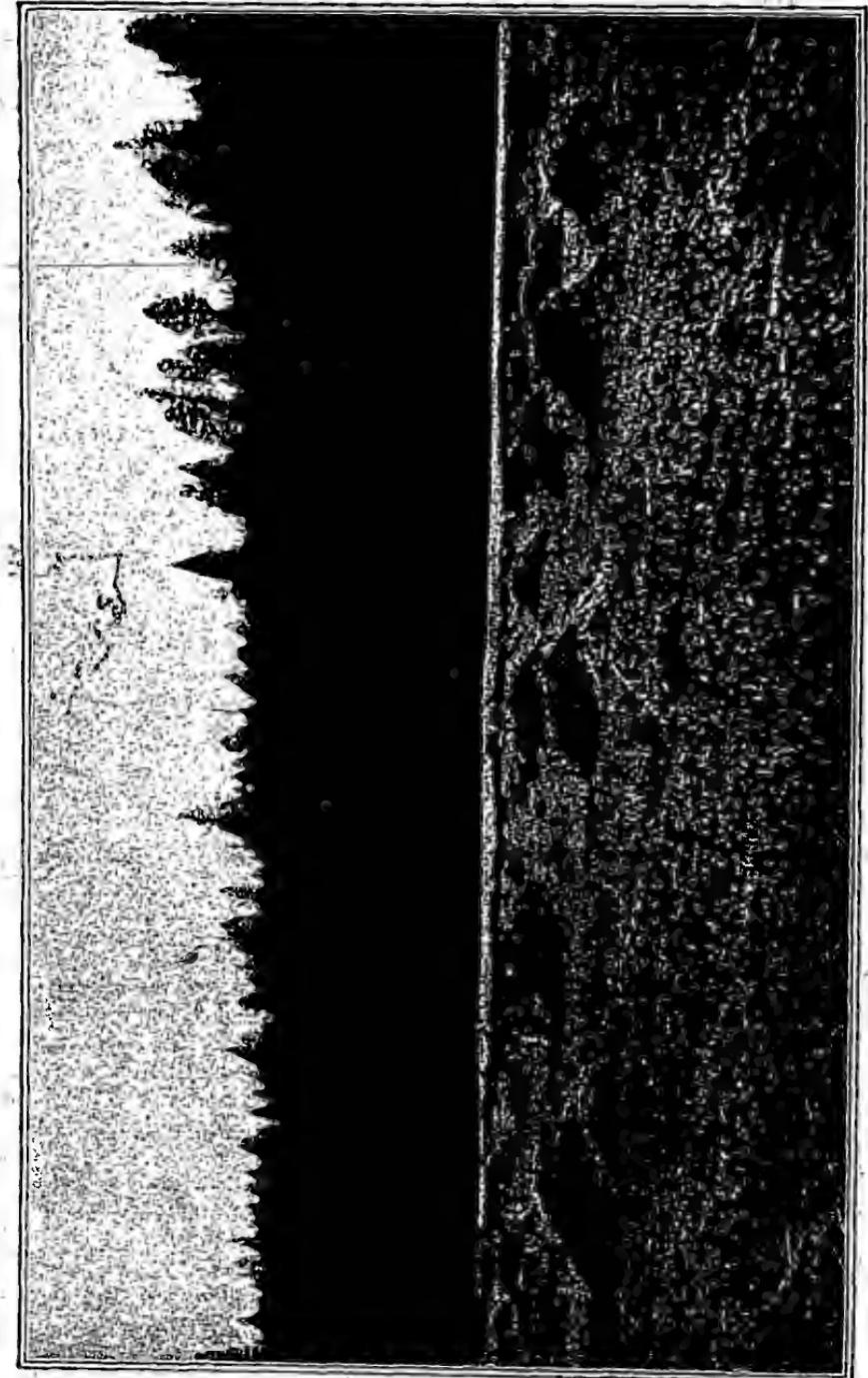
and the development of the lumbering, mining, and fishing industries, there has been a constant and increasing demand for all food products. The greatest increase in consumption of food products during 1912 has been in butter, cheese, pork, mutton, eggs and dressed poultry. The value of dairy produce (exclusive of milk) importations amounted to \$2,125,850; and the value of dressed poultry and egg importations amounted to \$1,840,467. The home production of dairy produce (exclusive of milk) amounted in value to \$1,200,500, which was approximately only half of the market demand. Also the demand for dressed poultry and eggs was nearly \$2,000,000 in excess of the home supply. These conditions have tended towards an increased interest in the dairy and poultry industries. The rapid growth of city population has resulted in an increased demand for milk, which naturally affected the quantity of butter manufactured. The increase in the demand for pork and mutton has not been met with a corresponding development of the swine and sheep industries. The raising of swine is a complement to the dairy industry, and with the recent impetus given to the latter it is to be expected that in future more pork will be produced for home markets. Considering the adaptability of the province for the raising of sheep, it is surprising that importations last year should have amounted in value to \$1,315,459.

The heaviest importations in live stock have been in dairy cattle and heavy horses. The rapid growth of the cities and the opening up of the agricultural sections of the country have largely been responsible for the large importations of draft horses. Transfer and commission houses are constantly demanding sound horses of good weight, and small farms are always in need of sound horses of the agricultural class.

Prices for all classes of live stock are somewhat variable, prices at present being exceptionally good. So long as the agricultural districts of the province are being opened up and devoted to agriculture, and so long as our urban population increases at the rate which it has been for the past while back, average prices for all classes of live stock and food products will be good.

HORSES.—The breeding of draft horses has received considerable impetus recently, owing to the demand for good sound horses for city use, and in many districts, especially along the Lower Mainland and on Vancouver Island, the quality of the horses has been improving rapidly during the last few years, so that to-day British Columbia has many horses which will compare favorably with those in other parts of Canada.

The lumber business is at present in a flourishing condition and the development of this industry has demanded horses of good breeding, suitable for lumbering purposes. Horses of this class are produced at good profits in many parts of the Province and the great need is for more horses being kept and bred in these districts. In the Upper Country comparatively little attention has been given to the breeding of horses except under range conditions. The range, however, is not supplying the class of horse that is most needed, and greater consideration should be given to the class of stallions used. Draft horses sell from \$500.00 to \$900.00 per team, while for extra choice specimens much higher prices have been realized.



Cutting Green Peed, Windermere District, British Columbia

Farm teams are worth from \$300.00 to \$600.00. There have recently been brought into the province large numbers of Clydesdales, Percheron, Belgian and Shire stallions. These have usually brought good figures, some of the best upwards of \$3,000.00 each. First-class mares of these breeds are comparatively few in number, with Clydesdales predominating. Breeding mares at present are bringing good figures, from \$300.00 to \$800.00 apiece. Quite a demand has been created for light horses, particularly high-stepping harness horses of the Hackney type and also for good saddlers. The annual horse shows, held in the Coast cities, are important factors in encouraging the breeding of light horses. The price of this class of horse varies according to quality and action, ranging from \$400.00 to \$2,000.00. Although the market for this class of horse is rather limited, prices are exceptionally good and the quality of the exhibits in a British Columbia horse show compares favorably with that found in the largest horse shows in the world.

The Horse Breeders' Lien Act has been in operation for six years, and has done much to improve the quality of stallions throughout the province.

CATTLE.—In the districts surrounding the larger cities of the Coast, in the Fraser Valley, and on Vancouver Island, the dairy industry has been making rapid strides. With the increase in the dairy industry, there has also been a noticeable increase in the quality of dairy stock bred. Dairymen are coming to realize the importance of a pure-bred sire and are also breeding many valuable cows.

In those districts in the immediate vicinity of Victoria and Vancouver, Holsteins predominate, while in other districts where creameries have been established, Jerseys and Ayrshires are more largely kept. With the establishment of the creamery system, the quality of the butter has been greatly improved, and the quantity placed on the market increased as well.

Extra choice Holstein, Jersey, Guernsey and Ayrshire bulls, for breeding purposes, command exceptionally good prices. Many of these have been brought in recently and long prices have been paid for them. Prices for heavy-producing cows are also good, ranging from \$200.00 to \$500.00. Grade cows sell from \$60.00 to \$200.00, according to the quality. The principal grades being bred are Jersey and Holstein.

Very little dairying is carried on in the Upper Country and until farmers use some system of irrigation for the growing crops, it is evident that dairying cannot develop very materially in these parts. There is, however, considerable interest being taken in the dual-purpose cow. There are several breeders of Red Polls and this class of cattle seems to be gaining favor where exclusive dairying cannot be carried on. There is also room for the breeding of milking Shorthorns, and in the Dry Belt where the rainfall is very light, if the proper system of irrigation were established so that fodder crops would be produced, the number of dual-purpose cattle could be materially increased. Creameries could be established and butter, as well as beef, could be supplied to the market. The northern portion of the province provides good opportunities for the development of the dairy industry along these lines. At present, practically all the beef

produced for our markets is grown under range conditions,—Hereford and Shorthorn grades being almost exclusively used. Practically all of the imported beef comes from Alberta, while prices for native beef are very good, ranging from 4c. to 8c. at shipping point. The quality of the stock is improving slowly, through the use of imported pure-bred Shorthorn and Hereford bulls.

SWINE.—As a complement to the dairy industry, the raising of swine proves very profitable and they may be kept in nearly every district of the province. At the same time the supply is not nearly equal to the demand. With our comparatively mild winters, where there is very little snowfall, and where abundance of green food may be produced, hogs may be raised cheaply. In many parts of the province clover and alfalfa do very well, and in the Fraser Valley, along the Lower Mainland and on Vancouver Island,—the chief centre of the dairy industry,—hogs are being kept in greater numbers. The chief breeds are Yorkshire, Tamworth and Berkshire, with crosses of Yorkshire-Berkshire and Tamworth-Berkshire. There is strong sentiment in favor of the bacon type of hog, yet it is not advisable to breed the extreme bacon type as produced in Ontario for the English market. Prices for live hogs average from 7c. to 10c., and breeding stock of all kinds sells well.

SHEEP.—British Columbia is annually importing thousands of mutton carcasses from Australia, as well as from other parts, and at present comparatively little is produced at home.

In many parts of the province there are few other industries which could be made more profitable than the growing of sheep. The production of mutton is a more important factor than the production of wool, consequently the short and medium wool breeds predominate. Also the climatic and soil conditions have something to do with the breeds kept. Shropshires, Southdowns and Oxfords are most numerous, while a few Lincolns, Leicesters and other breeds are in favor in some parts. There are comparatively few flocks maintained under range conditions, but small flocks, kept under range conditions, are very profitable. One serious difficulty in the maintaining of large flocks is the prevalence of coyotes and panthers which sometimes destroy a large number of the flock. A small flock kept on the average farm where mixed farming is carried on, and properly looked after and winter fed, to a certain extent, will give the owner a handsome profit. Mutton always commands a good figure, and spring lambs sell quite high. Breeding rams and ewes also command good figures.

GOATS.—A comparatively new industry is being developed in many parts of the province. In such districts as the East and West Kootenays, where, because of the nature and contour of the land and the fact that most of it is not cleared, dairying cannot be developed, the milch goat is being bred.

Interest in the goat industry has increased very rapidly of late and many small farm owners are anxious to keep a goat or two, and naturally they desire one of good milking qualities. Many goats are being imported at from \$25.00 upwards, and, because of the economy in milk production

and the ease with which the goat may be raised, it is believed that the goat industry will soon become an important one in British Columbia.

Live Stock Organization.—The Stock Breeders' Association of British Columbia has been in existence for some six years and has done a great deal towards improving the live stock industry of the province. Its chief work is educational, but, at the same time, it does much in a practical way to assist stockbreeders. It encourages the importation of pure-bred live stock and provides for special prizes at the leading exhibitions of the province. It also endeavors to interest the young men of our farms in live stock, and in this connection it provides for prizes in stock judging competitions at the Fall Fairs. It endeavors to promote the welfare of the live stock industry in general.

POULTRY

Splendid markets for all kinds of poultry products await the producers in British Columbia. For years to come, the supply of eggs and fowls produced in the province cannot overtake the enormous demand. At the present time, supplies are drawn from all parts of the North American continent. Eggs are shipped from Kansas, California, Washington, Oregon, and other States; from the Provinces of Alberta, Saskatchewan, Manitoba and Ontario, and even from China. Live poultry is brought in by the carload from the mid-western states and provinces, and fattened before consumption in the province. It is calculated that one city alone imports 65,000 dozen eggs weekly, and it is estimated that the eggs produced adjacent to the above mentioned city, and which help to supply the demand, do not exceed in numbers more than 8,000 dozen weekly. Such a condition is undesirable when we consider the advantages, both of climate and nearness to markets, that the province enjoys.

Although there are not a few ranches in the province where the sole form of occupation is poultry raising, and the owners are getting good returns for their investment, at the same time it must not be forgotten that excellent profits are possible on farms of mixed husbandry. The returns from the flock should add materially to the income of the fruit-grower, the dairyman, or even the man who is merely in the process of clearing his land. The orchard makes an admirable run for poultry, especially growing stock. In the orchard many insect pests will be destroyed and the manure from the fowls will greatly enrich the soil. By-products in the orchard and in the fields are converted into profit. Fowls are economizers, and when a poultry department is carried on with other branches of farming a system of rotation could be adopted very profitably.

Regarding prices for poultry products, it may be stated that they are higher now, throughout the year, than at any previous period. For instance:

In 1905 the average price paid per dozen for eggs was 30c.

In 1906 the average price was 34c.

In 1907 the average price was 37c.

In 1908 the average price was 40c.

In 1909 the average price reached 50c. in some parts of the province.

In 1910 the average price reached 55c. in some parts of the province. During 1912 the price per dozen ranged from 75c. down to 25c. per dozen.

In some parts of the province, especially on Vancouver Island, the greater majority of fowls kept are of the lighter or egg-laying breeds, such as Leghorns, Minorcas, etc. On some of the large poultry plants distributed throughout the province, can be found up-to-date methods in vogue that can compare favorably with the larger and older established poultry plants of the East.

Quite recently, several co-operative egg circles, or stations, have been formed in the province, and these have helped the members to market their product more profitably, and also assisted the members to procure their grain and other feed supplies more economically.

All branches of poultry culture can be engaged in, and next to hens or common poultry, the breeding of water fowl, ducks especially, can be successfully carried on in almost all sections of the province. The Chinese population here are good customers and consume the majority of water fowl offered on the market.

The British Columbia Poultry Association, organized recently with a membership of over four-hundred, is doing splendid work in assisting poultrymen generally throughout the province. The Association, besides assisting and helping local poultry associations, also provides utility classes for market poultry, in live and dressed fowls and eggs, at its annual show, and is also assisting in helping to procure grain and feed at a reduced cost. The Association receives financial aid from the Provincial Government, and has been a great boon in many ways and has justified its existence.

In connection with poultry keeping, not a few of the more enterprising poultrymen have launched out into the selling of day-old chicks, and have found it a very profitable part of the business. There seems to be a considerable demand for them, and prices realized give a substantial margin for profit. In the vicinity of Victoria, there is also a considerable demand for day-old ducklings, for which good prices are paid.

Crate fattening establishments have been opened, and these centres offer first-class prices for all the surplus cockerels that the poultrymen can produce. As a matter of fact, so great is the demand, that cockerels are shipped in from the East and South by the carload to help out the inadequate local production. Retail prices for fattened table fowl, dressed, during the past year never went below 25c. per pound and ranged as high as 40c.

Quite a large number of turkeys are marketed during the year, but, as in all other poultry products, the supply is away below the demand. There are splendid opportunities offered for the breeding of turkeys, especially in the sparsely settled districts, where plenty of free range can be secured. This is very essential to successful turkey raising, as is also fresh or virgin ground. Turkeys will not flourish if allowed to mingle with other varieties of fowls. Owing to the plenteous supply of insect life, wild berries and seeds, turkeys can be raised very cheaply. In fact, turkeys were marketed

at Thanksgiving, 1910, that had secured all their food from this source, except during the first two weeks of their life. Tip-top prices are realized for this class of flesh, the retail prices ranging from 25c. to 45c. per pound.

Bulletins relating to poultry keeping may be had by application to the Department of Agriculture, Victoria, B.C.

CEREALS AND MIXED FARMING

To the man of small capital mixed farming affords the most promising means of making a comfortable livelihood in British Columbia. To engage exclusively in fruit-growing, one is obliged to provide for the period from the setting-out of the trees till they come into bearing, thus requiring an income from other sources, while in mixed farming returns may be counted on from the start. A few acres planted in small fruits, early vegetables, potatoes, carrots, onions, cabbages, etc., with fowls, some cows and pigs, will give a man an assured income the first season, and will not interfere with his planting a variety of fruit trees, which will become profitable later. Another advantage of mixed farming is the fact that a man and his family can attend to the work, which occupies them pleasantly the year round, while the special farmer, with but one crop to depend upon, has to cultivate a larger area and hire help during the short periods of seeding and harvest, and has nothing to occupy his time the remainder of the year. Large farms and specialties in agriculture, should only be attempted by men of sufficient means to tide over long periods of unproductive idleness.

GRAIN GROWING.—Wheat is grown principally in the Fraser Valley, Okanagan, Spallumcheen, and in the country around Kamloops in the Thompson River Valley. Until the northern interior of the province is brought under cultivation through the construction of railways, the wheat area will not be greatly increased. Wheat is only grown on the Mainland Coast and Vancouver Island for fodder and poultry-feeding.

Barley of excellent quality is grown in many parts of the province.

Oats are the principal grain crop, the quality and yield being good, and the demand beyond the quantity grown. Rye is grown to a limited extent, and is used for fodder.

The average yield of grain and prices are as follows:—

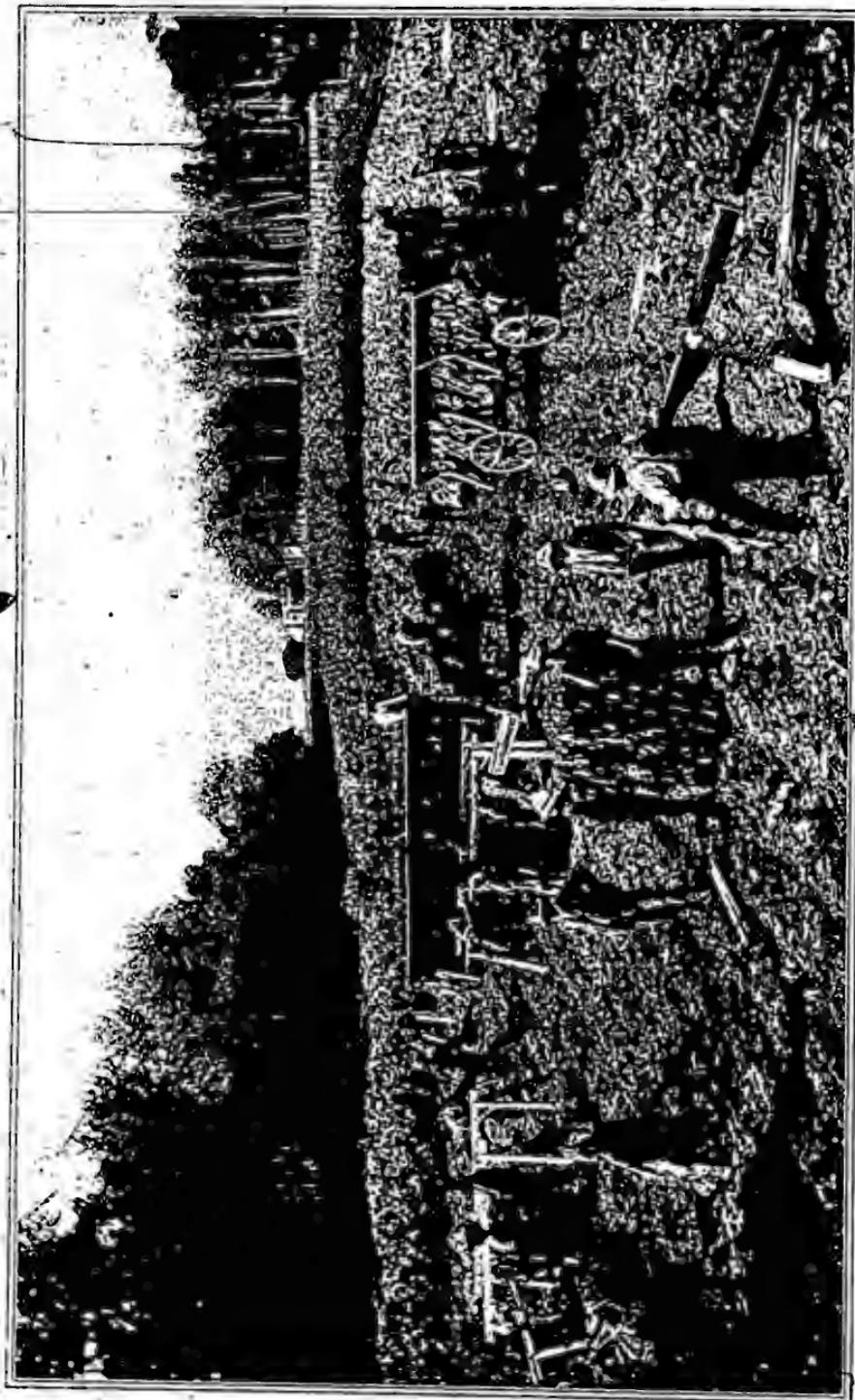
Wheat, bushels per acre 25.62; price per ton \$38.00

Oats, bushels per acre 39.05; price per ton 35.00

Barley, bushels per acre 33.33; price per ton 35.00

These averages are very much exceeded in many cases, according to nature of soil and local conditions. In the matter of oats, as high as 100 bushels to the acre is not an uncommon yield.

ROOT CROPS.—Potatoes, turnips, beets, mangels, and all other roots grow in profusion wherever their cultivation has been attempted. Sixty-eight tons of roots to a measured acre is recorded at Chilliwack, and near Kelowna, on Okanagan Lake, 20 acres produced 403 tons of potatoes, which sold at \$14 per ton. The Dominion census places the average yield of potatoes at 162.78 bushels to the acre. The average price of potatoes



A British Columbia Tobacco Harvest. Photo copyright by G. E. H. Hudson, Kelowna, B.C.

is \$14 to \$16 per ton, while carrots, turnips, parsnips, and beets sell at an average of about 60 cents per bushel.

HOP CULTURE.—The Okanagan, Agassiz, and Chilliwack districts are well suited to hop growing, and produce large quantities, unexcelled in quality. British Columbia hops command good prices in the British market, and most of the crop is sent there, though now Eastern Canada and Australia are buying increasing quantities. The yield of hops averages 1,500 pounds to the acre, and the average price is 25 cents per pound.

FODDER CROPS.—Besides the nutritious bunch grass which affords good grazing to cattle, horses, and sheep on the benches and hillsides, all the cultivated grasses grow in profusion wherever sown. Red clover, alfalfa, sainfoin, alsike, timothy, and brome grass yield large returns—three crops in the season in some districts and under favorable circumstances. Hay averages about $1\frac{1}{2}$ tons to the acre, and the price from \$17 to \$25.

SPECIAL PRODUCTS.—Tobacco growing has proved successful in several districts, notably in Okanagan, where a leaf of superior quality is produced. Tobacco of commercial value will grow in almost any part of Southern British Columbia, and there is no reason why the farmers of the province should not cultivate it in a small way for their own use, as is the custom in many parts of Quebec and Ontario, and thus gain the experience necessary to undertake its production on a large scale. F. Charlan, Chief of the Tobacco Division of the Department of Agriculture, Ottawa, says of the development of tobacco culture in Okanagan Valley: "The progress made by the industry in such a short time is really surprising. I was much pleased also with the quality of the product. The aroma is very fine, very agreeable, much like that of some Havanas. This tobacco would make excellent fillers. The seed is imported from Cuba and renewed every four years."

Experiments have proved that the soil and climate in and about Victoria are admirably adapted to the production of flowering bulbs, and quite a large business has been established. There is a good market for all the bulbs that can be grown, as the bulk of those used in North America are imported from Europe, and the Pacific Coast alone uses fifty million annually. The profit to be derived from bulb-growing is estimated at over \$2,000 per acre.

The importance of apiculture is beginning to be recognized, and a considerable quantity of delicious honey of home production is found in the local markets. As the area of cultivation extends, bee-keeping should become a profitable adjunct of general farming.

The Coast districts and many of the lowlands of the interior are well suited to cranberry-culture, which is being tried in a small way, and with success, by settlers on the west coast of Vancouver Island.

Celery, another vegetable luxury, is grown in limited quantities, and the soil and climate warrant its cultivation on a more general scale. Celery properly grown and packed commands good prices and an unlimited market.

Sugar beets grow to perfection in several localities, but their cultivation on a large scale has not been attempted.

Indian corn, melons, and tomatoes are profitable items in the output of the small farmer, and are successfully grown in all of the settled districts.

IRRIGATION

The introduction of irrigation is working great changes in agricultural methods. Lands seemingly worthless are, by means of irrigation, made to produce up to four times as much as the choicest soil under the old method. Irrigation renders mixed farming particularly profitable, and men are quick to appreciate advantages which make them independent of the elements in their farm work.

Under the "Water Act, 1909," unrecorded water may be diverted from any natural source for irrigation or agricultural purposes generally. The scale of fees is fixed by the Lieutenant-Governor-in-Council, the rates being very reasonable for water recorded and actually used for agricultural purposes. Generally speaking, there is abundant water within reach, but there are sections where the height of the land above the water-level or distance from the source of supply stands in the way of individual attempts at irrigation; but the work may be accomplished by co-operation and with the expenditure of capital. In Okanagan, Similkameen, and Kamloops districts, companies have purchased large tracts of land, formerly used as cattle ranges, which they are sub-dividing into small holdings of 10 acres and upwards, and constructing reservoirs and ditches, which will provide an unfailing supply of water. These companies are already reaping the reward of their enterprise, as the land is being rapidly sold to actual settlers, who are planting orchards and engaging in mixed farming.

The Provincial Government, impressed with the importance of irrigation, has appointed a commission of experts to study the hydrographic conditions existing in the "dry belt," and to formulate a comprehensive plan for the reclamation of many hundreds of thousands of acres of bench lands from pasturage to flourishing orchards and farms, the homes of thousands of prosperous settlers.

DRY FARMING

There are large areas of good land in British Columbia which, on account of limited rainfall, have been considered of little value except as pasture. These lands in many instances are so located that it is not possible to bring them under irrigation by any means now known to engineers. But of recent years attention has been directed to "dry farming"—a method of agriculture which has been found to be successful with an annual rainfall of as little as twelve inches. The principles of dry farming are:

First, to keep the surface of the land under cultivation loose and finely pulverized. This forms a soil mulch that permits the rains and melting snow to percolate readily through to the compact soil beneath, and at the same time prevents the moisture stored in the ground from being brought to the surface by capillary attraction, to be absorbed by the hot,

dry air. The second is to keep the subsoil finely pulverized and firmly compacted, increasing its water-holding capacity and its capillary attraction, and placing it in the best possible physical condition for the germination of the seed and development of plant roots. The "dry farmer" thus stores water not in dams and artificial reservoirs, but right where it can be reached by the roots of growing crops.

There are instances in British Columbia in which crops are being successfully grown on land which had been considered worthless for agricultural purposes on account of its altitude and the impossibility of getting water to it. With improved methods of agriculture and machinery adapted to this special purpose, there is no doubt that these rich but semi-arid districts will eventually support a large agricultural population.

PART VII.

INDUSTRIES IN WESTERN CANADA

It goes without saying, that the marvellous development that has taken place in Western Canada, particularly during the last decade, has had the effect of building up a number of the most progressive and handsome cities in the world. Western Canada will, within a comparatively short period, be the home of teeming millions whose comforts and necessities must be provided for. To cater to this increasing population will require a vast amount of capital and labor. Industrial centres are now springing up all over Western Canada, and openings exist for the profitable employment of capital and business experience in a multitude of directions.

THE LOCAL MARKET

The construction of the Canadian Pacific Railway across Western Canada, opened up a territory rich in raw material, destined for the development of every kind of commercial enterprise. The enormous increase year by year in land settlement demands a contributary increase in industrial development. The market for the manufactured article is within the territory of its manufacture, and merely awaits the further investigation on the part of the capitalist.

Each year new towns come into existence; each year the demand for supplies grows greater; each year the importation of merchandise that could be manufactured in the country is steadily increasing.

The Canadian Pacific Railway, with its 1,400 cities, towns and villages in the West, opens up a tremendous field for commercial development. The retailer is demanded at every point; the wholesaler at strategic corners, where he is able to cover a large expanse of settled country; the manufacturer in the cities where the wholesale man takes the larger part of the output. For the manufacturer, the waterpowers of the Western rivers, the coal deposits of British Columbia, Alberta, and Saskatchewan, and the

natural gas fields of Alberta, constitute a means by which the raw material may be turned into the finished product with economic success and in competition with the products of any country in the world.

INDUSTRIAL OPENINGS

The best illustration of the demand for factories in Western Canada may perhaps be found in the list of imports shown in the annual summary, issued by the Dominion Government, and for which Canada is at the present moment sending millions of dollars out of the country.

The total imports for the year ending March, 1913, amounted to \$675,428,168, of which \$670,000,179 represent merchandise, and \$5,427,168 coin-and-bullion.

Among the articles imported, in the composition of which the raw material lies right at our door, are the following:

Brick, tiles, clay and manufactures of	\$ 3,631,488
Carriages, carts, wagons, etc.	20,802,322
Cordage, rope and twine	2,979,239
Earthenware, china and graniteware	3,265,180
Flax, hemp, jute and manufactures of	8,794,963
Glass	5,322,690
Gloves and mitts	2,793,606
Leather and manufactures of	9,601,577
Brass and manufactures of	5,288,082
Copper and manufactures of	7,548,530
Iron and steel and manufactures of	138,648,364
Paper and manufactures of	8,347,381
Soap	1,335,517
Sugar, molasses, etc.	20,591,488
Wood and manufactures of	28,515,039
Bread stuffs	11,633,315

CLAY AND CEMENT PRODUCTS

The Dominion Government has been for the last few years and still is engaged on a survey of the clay and shale deposits in the West, and from a summary report already issued, it would appear evident that every kind of clay product can be manufactured. The demand for building material outstrips the supply by many thousands of dollars annually, and thus there is a great field open for the manufacture of all clay products, and cement and its products, the huge deposits of lime rock in Alberta and British Columbia being eminently suitable to this industry.

CREAMERIES AND BEET SUGAR FACTORIES

The Provinces of Alberta, Saskatchewan and Manitoba, during the year 1912, produced 12,012,043 pounds of butter, valued at \$3,113,162; cheese to the value of approximately \$85,000; potatoes over \$6,000,000; turnips and other roots valued at \$3,814,000; hay and clover valued at \$5,226,000, and alfalfa, \$325,000. The sugar beet as grown in Alberta

is manifestly successful and produced sugar, valued at approximately \$75,000 last year, but there is a much larger scope for this and other industries at the present time, with an exceedingly profitable future. Not nearly sufficient is being produced to take care of the home market, in addition to which there is a large outside market to provide for, with products which should, and can, be grown to perfection in the West.

WESTERN CANADA WATER POWERS

Enormous water powers can be and are being developed in Western Canada. In Western Ontario, east of the boundary of Manitoba, the water powers are estimated to produce 237,347 h.-p., and have so far been developed at Kakabeka Falls and Kenora. In the Province of Manitoba the estimated water power amounts to 6,916,000 h.-p., of which 78,000 h.-p. has been developed, principally for the City of Winnipeg.

The water powers of the Province of Saskatchewan are estimated to produce 470,200 h.-p., but are at the present time practically undeveloped.

The Province of Alberta has huge water powers within its boundaries. It is estimated that there is available 1,137,000 h.-p., of which only about 7,300 h.-p. has been utilized up to date.

The water powers of the Province of British Columbia are estimated to produce 2,045,945 h.-p., and at the present moment 137,000 h.-p. has been developed.

NATURAL RESOURCES OF WESTERN CANADA

In Western Ontario the products of the iron ranges which are tributary to the lake ports are being developed, and the iron ore used at the blast furnaces at Port Arthur. The gold mining claims south of Dryden, and at Kenora, are being exploited. The cities of Port Arthur and Fort William during the season of navigation handle the huge grain crop of the West, which is shipped out over the lakes, and the freighters bring back a large tonnage of coal and merchandise. The paper pulp industry is being developed at Dryden.

In the newly added territory to the Province of Manitoba there are enormous natural resources, which have not as yet been sufficiently explored to form any adequate estimate of their value. There are, however, large stretches of timber and big coal deposits as well as other minerals. The lakes of Manitoba—Winnipeg, Winnipegosis and Manitoba—are famous for their whitefish. Rich deposits of gypsum, clay, shale, limestone, gravel and sand exist.

The Province of Saskatchewan also possesses valuable coal, shale, gravel and sand deposits, and, in the north, valuable timber limits.

The Province of Alberta is the home of the natural gas field, and has coal beds underlying a large part of the province. Vast deposits of clay, gravel, sand and limestone are found, and, in some cases, extensively utilized. Iron ore and copper are also reputed to be found on the east slope of the Rocky Mountains.

The principal products of the Province of British Columbia are coal, gold, silver, copper, lead, zinc, timber, furs, fish, oil, hops, fruit, vegetables, wheat, oats, barley, hay and cultivated grasses, marble, granite, limestone, gypsum, clay, shale, gravel, sand, etc.

Vancouver Island, with its ports at Victoria, Nanaimo and Alberni, is building up an immense shipping trade to all parts of the world. The island is tremendously rich in timber and minerals.

LUMBERING

Lumbering on a large scale is an important industry in the northerly portion of the Prairie Provinces, and in the foothills of Alberta and the east slope of the Rocky Mountains.

In British Columbia the lumbering industry is next in importance to that of mining. The vast forest of large trees west of the Coast Range were for many years the supply market for the world in the way of spars and masts, and at the present day much of the larger timber used throughout Canada for works of importance necessitating the use of large pieces of timber, is brought by rail or boat from the Western slopes. The province may now be said to possess the greatest compact area of merchantable timber on the North America continent, this being roughly estimated at 182,750,000 acres. It is only of comparatively recent years that the lumbering industry of the interior has risen to importance, but since the opportunities have developed, the mountain mills have become one of the chief sources of supply for the immense demand that has opened throughout the Prairie Provinces. The red cedar shingles obtain a ready market as far east as the Province of Ontario, while the beautiful grains of the British Columbia fir have opened a way for the using of it for finishing purposes throughout the whole of Canada and in the north-western States of America. The Western species of hemlock is much superior to that of the East and is as serviceable in many ways as the highly prized fir. The overseas trade is steadily-growing, and with the opening of the Panama Canal the Coast trade will expand very rapidly.

At the close of the last year there were 207 large and small sawmills in the province, with an annual daily capacity of 4,500,000 feet, or an average capacity of approximately 21,500 feet. In addition to this number there were 49 shingle mills with an aggregate daily capacity of 3,395,000 shingles. The cutting throughout the province for 1912 being approximately 1,262,000,000 feet shows a marked increase over eight years previously—1904—when the cut was but 325,271,500 feet. Of the 1912 production 902,000,000 feet came from the Coast mills and the balance was cut in the interior.

MINING

Manitoba, Saskatchewan and Alberta.—From the fourth meridian west to the boundary of the Provinces of Alberta and British Columbia vast areas are underlaid with rich deposits of lignite, bituminous and anthracite coals. The coal mines at present in operation have increased their output to supply the market fairly well, but much yet requires to be

done. The lignite coals on the eastern boundary of the coal belt are being mined at Cypress Hills, Medicine Hat, Red Deer, Edmonton, Sturgeon River and Morinville districts. The cost at the mouth of the pit ranges from \$1.50 to \$2.50 per ton. A class of coal superior to this (geologically called lignitic) is mined principally at Lethbridge and Taber where over \$3,000,000 has been invested.

The true bituminous or steam coal is mined south-west of Pincher Creek, Alberta, a number of mines in the Frank-Blairmore district and at Canmore on the main line of the Canadian Pacific Railway.

The most important anthracite deposit is near Banff where the Bank-head Mines, Limited, have an output capacity of 2,000 tons per day. The anthracite dust is made into briquettes, which have received a ready sale in the domestic market. This is the only anthracite mine being operated in Canada, and this class of coal will supply the market from Winnipeg to Vancouver with a hard coal equal to that shipped from Pennsylvania.

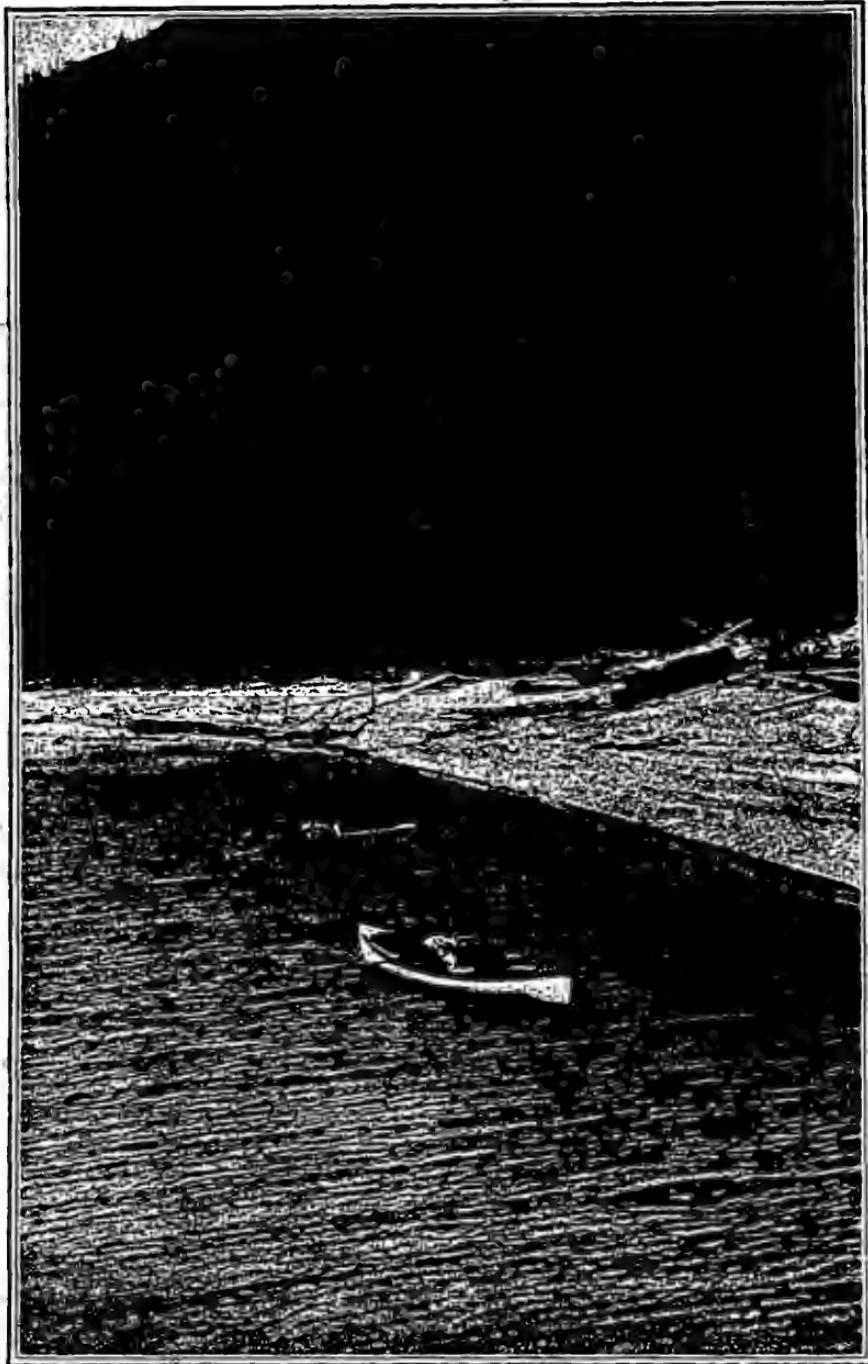
For years past placer gold in paying quantities has been found on the banks and bars of the North and South Saskatchewan, also on the Pembina, Smoky, McLeod and Athabasca Rivers. In the main range of the Rocky Mountains mineralized veins of copper with a small percentage of gold and galena veins carrying a fairly large percentage of silver have been located. Prospecting work has been done on a number of the leads, but up to the present not enough to prove them at depth.

British Columbia justifies her title as the mineral province of Canada, inasmuch that in one year she produced two-thirds as much in the following metals and coal products as all the other Canadian Provinces combined, and that, too, in spite of the fact that her iron and zinc deposits are still undeveloped, and mica, gypsum and other minerals which she has in abundance not yet drawn upon.

The mineral production of the province for the year 1912 is estimated to be \$32,606,000, being an increase of \$9,106,928 over 1911. The values were as follows:

Gold	\$ 5,460,800
Silver.....	1,676,200
Lead.....	1,520,000
Copper	8,838,500
Zinc	501,500
Coal.....	9,275,000
Coke	1,584,000
Building materials	4,250,000

The tonnage of coal mined in the province in 1912 amounted to 2,650,000 long tons and 264,000 long tons of coke, a total of 2,914,000 long tons, valued at \$10,859,000. Expanding industries, railway extension and increasing population demand an ever-increasing production of coal. The total mineral production recorded for the province to end of 1912 was \$430,000,000.



Many Spots in Western Canada Delight the Heart of the Nature Lover

The steady increase in production is shown in the following table:

1890.....	\$ 2,608,803	1908.....	\$ 23,851,277
1895.....	5,643,042	1909.....	24,443,025
1900.....	16,344,751	1910.....	24,478,572
1905.....	22,461,325	1911.....	23,499,072
1906.....	24,980,546	1912, estimated.	32,000,000
1907.....	25,882,560		

Practically all the mining which has been done to date is confined to within a comparatively few miles from the railways, and hardly 20 per cent. of British Columbia can be said to be really known. It is calculated that there are yet untouched some 300,000-square-miles known to be richly mineralized; a field for the prospector such as exists nowhere else in the world.

FISHERIES

Extensive fisheries are carried on in the vast inland waters of Manitoba, Saskatchewan, Alberta and Western Ontario. In the Lake of the Woods, caviar of the highest quality is obtained. The famous whitefish of the Prairie Lakes is shipped to the Eastern States in great quantities.

In British Columbia during the year 1911-12 the value of all fish landed in a green state, and of all fish marketed, whether fresh, dried, pickled, canned, etc., amounted to \$13,677,125, of which the market value of salmon was \$9,851,897; cod, \$190,220; herring, \$414,730; halibut, \$1,845,135.

The principal food fishes of the North Pacific are salmon, herring, sturgeon, bass, oolachans, smelts, perch, trout, skil, sardines, anchovies, shad, oysters, clams, crabs, shrimps, and prawns. Whales are very plentiful along the coast of Behring Sea. Dog fish are valuable for their oil and in the manufacture of guano. Sealing, at one time a leading source of profit, has fallen off of late owing to restrictions imposed by the Behring Sea award and the decreasing number of these mammals.

Apart from the commercial aspects of British Columbia's deep sea fisheries, the lakes and streams offer exceptionally good sport to the amateur fisherman and angler. All the numerous rivers, creeks, and lakes, as well as the sea, teem with fish, so that the gentle art may be enjoyed at all seasons and in every part of the province.

The streams and lakes of Vancouver Island are in this respect particularly famous in the west, while the "Outlet" on the West Arm of the Kootenay River at Proctor; "The Pool" at Slocan Junction, the Creston district, and the waters of southern Yale are amongst the best known fishing resorts on the mainland. Non-residents of the province desirous of angling must first obtain a licence, which costs five dollars.

BUSINESS OPPORTUNITIES

It would be safe to estimate that a new town is being started in Western Canada at least once a week with the tremendous expansion in railway construction and the opening up of new territory for settlement. It is, of course, evident that the great agricultural development of the

Western Provinces creates business opportunities to equally as great an extent. In the newly established towns, general stores, blacksmith shops and all other enterprises peculiar to centres of development are required, and those who avail themselves of these opportunities to enter business in the early history of the new towns in Western Canada scarcely ever have occasion to regret that step.

PROFESSIONAL OPENINGS

Equally as great opportunities exist for certain classes of professional men in the towns of Western Canada. Doctors, lawyers, veterinary surgeons, pharmacists and others are in many cases urgently needed in these new communities.

Information as to the requirements which will enable professional men to practise in the various Western Provinces of Canada may be obtained by application to The Provincial Secretary, Winnipeg, Manitoba; Regina, Saskatchewan; Edmonton, Alberta; or Victoria, B.C.

MONTHLY PUBLICATION

The Canadian Pacific Railway Company, realizing the need that exists for directing those seeking industrial, business or professional openings in Western Canada, has compiled a statement, which is corrected monthly, of openings in these directions in towns along its system in Western Canada. This will be mailed free of charge to anyone applying to the address given below.

INDUSTRIAL BUREAU

The Canadian Pacific Railway maintains a bureau whose mission it is to carefully investigate and report upon the legitimate manufacturing and business requirements of the various cities and towns in Western Canada, and to place reliable information on this subject before interested parties. Anyone who desires to investigate the possibilities of Western Canada in a manufacturing or business way should direct his inquiry to

The Industrial Branch,

Department of Natural Resources,
Canadian Pacific Railway,
Calgary Canada.

PART VIII.

GENERAL INFORMATION OF INTEREST TO SETTLERS

PUBLIC WORSHIP *

The utmost religious liberty prevails in Canada. There is no State Church. Christian churches of various beliefs are found in the country towns as well as in the cities. The number of specified denominations of religious thought in the Dominion, according to the last census, was 168. No place is the Sabbath more respected than in the Canadian West.

SOCIAL CONDITIONS

It is an interesting fact that the population of Western Canada, widely scattered and composed of many nationalities, is singularly peaceful and law-abiding. Life and property are better protected, and individual rights more respected, even in the isolated mining camps and remote agricultural settlements, than in some of the great centres of civilization in older countries. The country, though new, enjoys all the necessities and many of the luxuries and conveniences of modern life. There are few towns which are not provided with waterworks, electric lights, and telephones. The hotels are usually clean and comfortable, and the stores well stocked with every possible requirement. There is little individual poverty. A general prosperity is the prevailing condition throughout Western Canada, for no one need be idle or penniless who is able and willing to work. The larger towns are well supplied with libraries and reading rooms, and some of the provinces have a system of travelling libraries, by which the rural districts are furnished free with literature of the best description.

All the cities and larger towns have well equipped hospitals, supported by Government grants and private subscriptions and many of the smaller towns are supplied with cottage hospitals.

The blind, deaf and dumb and other unfortunates are well cared for in well appointed institutions, maintained by the various Provincial Governments and under the management of experts.

Daily newspapers and periodicals of a high character are published in all the cities in Western Canada, and even in the remote and sparsely settled districts a weekly paper is generally a feature of the market town.

EDUCATIONAL SYSTEM OF WESTERN CANADA

One-eighteenth part of the whole prairie section of Western Canada, or two sections in every township, is set aside as a school grant for the maintaining of schools. This provides a very large school fund, which will assure the maintenance of an adequate and advanced school system. The schools are non-sectarian and national in character.

MANITOBA.—The public school system established in the Province of Manitoba is well abreast of the times. Its management is vested in one of the Ministers of the Government assisted by an Advisory Board consisting of 12 members. The cost of maintaining schools is moderate, owing to the liberal assistance given by the Government. Each teacher employed must have a certificate of a recognized standard of education, issued by the province, and, in addition, must present evidence of having received Normal training. A thorough system of inspection has been inaugurated, each school being usually visited twice during the year. The inspectors are not elected, but are appointed by the Government on account of their special aptitude for the duties they have to perform. In the schools of the larger towns the higher branches of study are taught and pupils are prepared for university matriculation and teachers' certificates. Uniform provincial examinations for teachers' certificates are held annually at convenient points. The people of the province take a keen interest in their schools, with the result that a system has been established which leading authorities admit provides as practical an education as can be obtained in the older provinces of Canada or the United States.

Summed up, the leading features of the Manitoba system are:

1. Government control, freed from political interference.
2. Liberal Government assistance.
3. Comparatively light taxation.
4. A very practical course of studies.
5. Thorough supervision by competent inspectors.
6. Trained teachers and uniform State examinations.
7. Free text books for pupils.

SASKATCHEWAN.—School districts are established in the Province of Saskatchewan by the Government, but are controlled, maintained and managed by the resident ratepayers of the district. The maximum size of rural districts is limited to 25 square miles, but the majority of districts at present being formed comprise an area of from 16 to 20 square miles. In order that a district be established, it must have four persons actually resident therein, who, on the erection of the district, would be liable to assessment, and at least twelve children between the ages of five and sixteen years inclusive. The schools are sustained by provincial aid, and also by local rates.

Some idea of the rapid spread of educational facilities in Saskatchewan may be gathered from the statement that no less than 379 school districts were created in 1912. In 1905, the province had 887 districts; on January 1st, 1913, the number had risen to 2,955. In 1909, a university, supported and controlled by the province, was established in Saskatoon. A large number of college buildings have been erected, and a full course of instruction in all branches is given. Smaller colleges are also located in Regina and Moose Jaw.

The province also maintains, at Saskatoon, an agricultural college with a complete staff made up of recognized authorities in their branches of the work. The college farm, with experimental plots, contains over

1,000 acres, and the farm buildings include class halls, dormitory, a laboratory for agricultural engineering, a stock-judging pavilion, a power-house, stock barns and pens, etc. The College of Agriculture is closely allied with the College of Arts and Sciences. At various times in the winter, short courses are given at the college, and extension work carries lectures and demonstrations to all parts of the province.

ALBERTA.—The school system of the Province of Alberta is acknowledged to be equal, if not superior, to any on the continent. Its management is vested in one of the Ministers of the Government. The organization of school districts is optional with the settlers. Districts formed cannot exceed five miles in length or breadth, and must contain at least four actual residents liable to assessment, and eight children between the ages of five and sixteen inclusive. The cost to the taxpayer of maintaining a school is small, owing to the liberal assistance given by the Government; the public grants paid to each school are from \$250 to \$300 per year. Each teacher employed must have a certificate of a recognized standard of education, and a thorough system of inspection is inaugurated, each school being visited twice during the year. In the schools of the larger towns, the higher branches of study are taught, and pupils are prepared for university matriculation and teachers' certificates.

The Provincial University has been established at Strathcona on the north side of the Saskatchewan River, overlooking the Parliament Buildings. Prominent citizens of Calgary have also promoted a university in that city, in which institution more than 150 students were enrolled in 1913.

BRITISH COLUMBIA.—The facilities for education in this province are equal to any part of the Dominion of Canada, and will bear comparison with the standard elementary schools of Great Britain. Attendance in public schools is compulsory, but the system is free and non-sectarian. The Provincial Government builds a school house, and pays a certified teacher in every rural district where twenty children between the ages of six and sixteen can be gathered together, placing the management in the hands of the local trustees, and sending inspectors and examiners periodically to look over the work. For outlying districts and mining camps this arrangement is very advantageous. High schools are also established in cities where classics and higher mathematics are taught. There are also Normal schools for the training of teachers. The minimum salary paid to teachers in rural districts is \$50.00 per month, and reaches as high as \$175.00 in city and high schools. The Legislature recently passed an Act for the establishment of the University of British Columbia, for the endowment of which two million acres of public lands have been set apart. The Educational Department is presided over by a Minister of the Crown. Under him is a Superintendent of Education and six inspectors. There are boards of trustees in charge of all schools in every district. High schools are maintained by the Government in all the more important cities and towns. There is a Provincial Normal School at Vancouver, and colleges at Vancouver and Victoria, besides many excellent private colleges and boarding schools.

AGRICULTURAL ORGANIZATION

Forming part of the educational system of Western Canada, an admirable system of agricultural instruction and demonstration has been developed through the efforts of the Dominion Government, the various Provincial Departments of Agriculture, and the Canadian Pacific Railway Company. As an example of this useful work we quote the following:

"An announcement that has met the applause of all Western Canada has just been made by Mr. J. S. Dennis, Assistant to the President and head of the Canadian Pacific Railway's Department of Natural Resources. Mr. Dennis stated that the Company will establish and operate in Western Canada, twenty-five demonstration farms upon which the most approved system of mixed farming will be practised with the idea of giving Western farmers absolute proof that this is the best paying system and only manner of farming that insures permanent agricultural development.

"Mr. Dennis is very strong on the point that the time has come when farmers in Western Canada must devote their energies to diversified farming rather than to straight grain growing. The older agricultural districts of both Canada and the United States offer proof that continual cropping to grain results in such depletion of the soil that the earth becomes non-productive. Every possible effort will be made to prevent this occurring in the Prairie Provinces, and the Canadian Pacific, in line with its policy of working always for permanent development of the country, will be in the van of the movement.

"Each of these new farms will be placed in charge of an expert agriculturist whose duty it will be to prove by example that in any series of years mixed farming will produce more satisfactory results than will straight grain growing. As at the present demonstration farms operated by the Company, farmers will be given advice without charge and it is expected that agriculturists of each district will often gather at the farm for lectures and practical demonstrations with the result that all will become better farmers and greater producers.

"As on all best farms, the dairy cow will form the backbone of the industry on the Canadian Pacific farms. In addition to the dairy herds, numbers of beef cattle, hogs, sheep and chickens will be kept, and small areas will be under crop to various grains, grasses and roots."

Three of these mixed farms are already in operation in Manitoba, four in Saskatchewan and five in Alberta.

At Strathmore, in the Canadian Pacific Irrigation Block east of Calgary, the railway company operates a well equipped Demonstration Farm with a competent staff, the members of which are ready to give disinterested advice to newcomers and to assist them in many other ways. A number of other farms in the eastern portion of the Irrigation Block are now being operated by the Company in preparation for their development on lines similar to that at Strathmore.

Each of the four Western provinces maintains a thoroughly up-to-date and well equipped Department of Agriculture, paying special attention to the dissemination of useful information on agricultural subjects among farmers, and particularly among the new settlers who are unacquainted with agricultural conditions in Western Canada. In Manitoba and Saskatchewan, well equipped agricultural colleges are maintained at Winnipeg and Saskatoon respectively and to each of these is attached an extensive Demonstration Farm. In Alberta, there are no less than three farm schools, situated at Claresholm, Olds and Vermilion, in addition to which the Provincial Government conducts Demonstration Farms at

Medicine Hat and Sedgewick. The Province of British Columbia is arranging for the establishment of a modern agricultural college in connection with the University now being organized at Vancouver. The College Farm maintained at Coquitlam by the Provincial Government of British Columbia is rapidly becoming a noted centre for the distribution of good stock, principally dairy cattle and draft horses.

The Dominion Government has for many years maintained a chain of well-conducted Experimental Farms in Western Canada. One of these, specializing in dairying and fruit production, is located at Agassiz, B.C., while similar farms are also in course of organization at Sydney on Vancouver Island and at Invermere in the Columbia Valley. Two of these farms are located in Alberta, one at Lacombe in central Alberta and the other at Lethbridge, in the southern part of the province. Both are devoted to mixed farming, although that at Lethbridge is operated partly as an irrigated farm and partly under the dry farming system. In Saskatchewan, one of the oldest and most favorably, as well as most widely known farms of the system is located at Indian Head, while at Rosthern in Central Saskatchewan and at Scott, further north, there are also experimental stations. In Manitoba, the Brandon Farm has long been noted for its thorough experimental work and has been of the greatest possible value to the farmers in that province.

The Agricultural Society and the Farmers' Institute are flourishing institutions in Western Canada, being subsidized by the various Provincial Governments, which provide for their organization and assist them in every possible way. These bodies are of the greatest possible assistance to farmers through the whole country. Expert judges are supplied for local fairs and for the stock judging classes which form a prominent feature at the Institute meetings. Speakers, well qualified to discuss agricultural topics, are also furnished for these meetings by both the Provincial and Dominion authorities. The membership fees are in all cases nominal, the work being carried on almost entirely at the expense of the local Governments, with liberal assistance from the Dominion.

In conjunction with the local Governments, the Canadian Pacific Railway Company furnishes, at suitable seasons, Demonstration Trains manned by experts in various lines of agricultural work to address meetings of farmers at many points, in conformity with an itinerary previously arranged and widely advertised. These trains carry specimens of the various kinds of farm stock to be used for illustration purposes at the meetings and in the judging classes at the various stopping places en route.

In the Department of Natural Resources of the Canadian Pacific Railway Company, one of the most important branches is that devoted to agriculture and animal industry. Connected with this branch are a number of trained agriculturists and experts in almost every line of agricultural work. These men are ready at all times to advise new settlers and to assist them in acquiring knowledge of local conditions and of the agricultural methods and the varieties of stock most suitable for the district in which they are located.

TAXATION IN WESTERN CANADA

Owing to the liberal grants made by the Dominion Government to the various provinces, taxation in Western Canada is extremely low. The revenue of the Dominion is raised entirely through a low tariff on imports and excise duties, and no direct tax of any sort is levied. The Prairie Provinces have practically adopted the "single tax" system for the creation of provincial revenue.

MANITOBA.—Under the Municipal Assessment Act, all buildings, improvements, equipment, live stock, etc., are exempt from taxation in rural districts. This brings farm property down to a straight "single tax" basis, the land only being assessable and only on the same valuation as adjoining unimproved lands of the same class. In other respects the burden of taxation is, as far as possible, removed from the shoulders of the farmer.

SASKATCHEWAN.—The only tax collected by the Provincial Government is that for educational purposes, and this tax, which is termed "supplementary revenue," has been of incalculable assistance to new and struggling school districts in rural areas. This tax varies from five to ten mills. The municipal laws form a strong inducement to the intending settler. The taxes for municipal purposes are low, the average assessment per acre being, in small local improvement districts, about four cents per acre, while the maximum assessment which can be levied is five cents per acre. In rural municipalities the average taxation is five cents per acre, and the maximum which can be levied is six and one-quarter cents per acre.

ALBERTA.—The rural taxation system of Alberta is based entirely on the land. Improvements, live stock, chattels or personal property of any kind are exempt absolutely. The province pays a large share of the cost of education and public works, and, as it derives its principal revenue from the Federal Government by annual per capita grant, it is unnecessary to levy any considerable local taxes. As soon as a parcel of land passes into individual ownership, the same becomes liable for local Improvement and General Provincial Educational taxes, which, when levied by the Government will not exceed a total of $2\frac{1}{2}$ cents an acre. When, however, lands are included in a school district they are subject to a school tax not exceeding ten cents per acre, and when land is also included in a local improvement district it is subject to a local improvement tax not exceeding $7\frac{1}{2}$ cents per acre. Where land is included with a rural municipality, both municipal and school taxes are levied according to the value of the land. Such taxation is based on the actual value of the land without regard to the value of improvements, and there is no provision for any tax being levied in rural municipalities on improvements or personal property.

BRITISH COLUMBIA.—Outside of incorporated municipalities, all taxes are imposed and collected directly by the Provincial Government and form part of the consolidated revenues of the province, which are expended in public improvements, roads, trails, wharves, bridges, etc.,

and in the administration of justice, and assisting in maintaining schools. The rates imposed by the last assessment act are as follows:

On personal property, one-half of one per cent.; on improved real estate, one-half of one per cent.; on wild land, four per cent.; on working coal mines (known as class "A"), one per cent.; on unworked coal mines (known as class "B"), two per cent.; on timberland, two per cent.; all being on the basis of assessed values.

All incomes up to \$1,000 are exempt. On taxable incomes of \$2,000 the assessment is one per cent., and this increases by small percentages up to incomes of \$7,000. Over the latter the rate is $2\frac{1}{2}$ per cent. These rates are lower than those levied in former years. A discount of 10 per cent. is allowed on all taxes (except school taxes in rural school districts) if the amount is paid by the 30th June.

In addition to the above there is a tax on all coal shipped from the mine of ten cents per ton, and on coke of 15 cents per ton. Minerals are taxed two per cent. on the gross value at the mine, less the cost of transportation and treatment. A royalty is reserved on minerals where the tax is not exigible. Unworked Crown granted mineral claims are taxed at the rate of 25 cents per acre. The following exemptions are allowed:

On mortgages as personal property; on the unpaid purchase money of land as personal property; on household furniture and effects in dwelling houses; on homesteads under the Dominion Land Act, and on pre-emptions under the Provincial Land Act for two years from date of entry and to the extent of \$500, for four years thereafter; on farm produce and on live stock and machinery on the farm up to the value of \$1,000, and on all income from the farm.

EXEMPTION LAWS

While the law contemplates that anyone shall pay his just debts, Manitoba, Saskatchewan and Alberta provide a very liberal exemption law to cover cases where, through misfortune of any sort, the farmer is unable to meet his liabilities, that is, the law protects from seizure for debt, where no mortgage exists, a certain number of horses, cattle, swine, and poultry, some household effects and a year's provisions, so that if a settler who has not mortgaged his property is overtaken by misfortune; he cannot be turned out of his house and home.

In British Columbia, also, the farm and buildings, when registered, cannot be taken for debt incurred after registration, and are free from seizure up to a value not greater than \$500 (£100 English). Cattle "farmed on shares" are also protected by an Exemption Act.

VOTING REGULATIONS

Canadian naturalization laws are very liberal, much more so than those of the United States. Those who are not British subjects, but now are located in Canada, may transact business and own real estate here as much or as long as they choose without becoming naturalized. They are also allowed to vote (providing they own property) on all but national issues, and upon becoming naturalized the privilege of voting upon national issues is extended to them.

TELEPHONES

In the three Prairie Provinces one of the advantages awaiting the coming of the settler is the telephone. The Provincial Governments control all telephone lines in these provinces, and are continually extending their system into the rural districts as settlement demands it. This system provides a most economical, complete and up-to-date rural service.

In British Columbia the telephone service is still in the hands of a large company, but extensions in rural districts are made to cope with the advance of settlement.

DOMESTIC WATER SUPPLY

An abundance of good well water is readily obtained almost anywhere in Western Canada by digging, driving or drilling. The cost ranges from \$2.00 to \$3.00 per foot completed. In many sections springs abound, and reports are continually being received from well drillers and others to the effect that they have, during the course of their operations, secured heavy flows of artesian well water. Western Canada enjoys the reputation of an excellent domestic water supply.

WORK AND WAGES

The current wages paid in and about the mines of British Columbia are as follows: Miners, \$3 to \$4 per day (12 shillings to 16 shillings); ore shovellers, \$3 (12 shillings); laborers, \$2.50 per day (10 shillings); blacksmiths and mechanics, \$4 to \$5 per day (16 shillings to 20 shillings). Board is usually less than \$7 (28 shillings) per week at mining camps.

Generally speaking, there is little demand for laborers other than farm hands and domestic help outside of the cities and larger towns. In these there is during the spring, summer and fall months an active demand for artisans and mechanics of the building trades, particularly carpenters and bricklayers at high wages. There is also a good deal of railway construction work that utilizes large numbers of men. Homesteaders with teams are often employed to do work of this nature and are able thus to supplement the revenue from their agricultural operations which in the early years is usually small. It should be remembered, however, that settlers near the route of the new railway lines can best take advantage of such opportunities.

The regular market in Western Canada for labor is, however, on the farm. Men are employed in many cases for the whole year, but some farmers who have not work for men throughout the whole twelve months engage them for only the crop season or from April to October. During these months the crops are grown, harvested and threshed, and many farmers are able before November to market the greater part of their grain. When men are employed for a twelve months' term they are paid from \$18 to \$30 per month with board and lodgings. These are extremes, however, and an average would probably be \$25 per month for good men. When employed for only eight months, the wages are higher, and other things being equal would average from \$25 to \$40 per month. For only harvesting and threshing, men are paid from \$35 to \$50 per month, or \$2.00 to \$3.00 per day.

The wages paid to domestic servants range from \$15 to \$35 per month, according to qualifications. There is at all times a scarcity of domestic help in Western Canada.

Skilled mechanics receive from four to six dollars per day, payment being made on the basis of hours of work.

There is absolutely no opening for clerks and office help. The supply is always much greater than the demand. Of course, any young man, who is strong and willing to work, may generally obtain work on a farm during the season, no matter what his previous occupation may have been.

SHOOTING AND FISHING

All through Manitoba and Saskatchewan prairie chickens (grouse) are generally plentiful. North of Qu'Appelle big game may be found. At Yellow Grass, on the "Soo" branch line from Pasqua, ducks, geese and plover are found in myriads during most seasons. In the Dirt Hills, about 20 miles south of Regina, deer and antelope, besides wild fowl, are fairly plentiful; and in the district about Regina there are innumerable opportunities for bags of duck and chickens, and nearly all the species of plover.

The "Mecca" of goose shooting is on the south side of Buffalo Lake, about 20 miles north of Moose Jaw, and also on Lakes Winnipeg and Manitoba. Wild geese in countless thousands come down from their feeding grounds in the Arctic circle in the months of September and October, and remain there until they take their departure for the south when ice begins to form on the lakes. Proper hides dug in the stubble fields in the line of flight of the geese, and decoys set out, will afford the finest goose shooting the keenest sportsman can desire.

On the branch railway from Regina to Prince Albert sportsmen should get good bags of chicken and ducks, while in the illimitable pine forest beyond Prince Albert, which is reached by line from Regina, game of nearly every description abounds, Montreal and Red Deer Lakes being especially good spots. Complete outfits can be procured at Prince Albert.

Rush Lake, a few miles from the station, on the main line of the Canadian Pacific Railway, is one of the finest points for geese, duck and other water fowl, where large bags can surely be made. Farther west, again, is the antelope country, Swift Current, Maple Creek and Medicine Hat being among the best outfitting points for a trip after these, the most beautiful animal of the plains. At Calgary, in sight of the "Rockies," superb sport may be enjoyed with the grouse among the brushy foothills of the giant range. Good shooting will be found within easy driving distance of the town, and glorious mountain trout fishing on the Bow River and its tributaries, to say nothing of the delights of visiting the ranches.

Edmonton is the gateway to the wild, half-known country to the north, a huge territory most abundantly stocked with game. In the Smoky River District, which is several hundred miles north of Edmonton, there are yet a few good buffalo, the best authorities say about seventy-five

head in all. These the Mounted Police are striving strenuously to protect, but their extinction is much to be feared. Moose exist in large numbers in the forest-covered country between the North Saskatchewan and Lake Athabasca, and are to be found in the extension of the same belt to the north-west of it, even into Alaska. To the northward of the Great Slave Lake, that vast solitude known as the "barren lands" extends to the very shores of the frozen sea. It is the home of the musk ox, the barren ground caribou, the wolf, the glutton, and the Arctic fox. Along the shores that bound it the polar bear may frequently be shot. It is a region full of interest to the naturalist and to the explorer.

In Southern Alberta, reached by the Macleod branch from Calgary, or by the Crow's Nest Pass Railway from near Medicine Hat, especially in that portion lying between Macleod and the mountains, there is the same wonderful variety of game, with the addition of blue grouse (cock of the mountains), as the foothills are approached. There is good chicken, goose and duck shooting between Macleod and the International Boundary. Swans are also bagged occasionally. Trout are plentiful in the three branches of the Old Man River, and its numerable tributaries west of Macleod, and the most enticing bait for a big one is a mouse. There is also good fishing in the St. Mary's and Waterton (also called the Kootenay) and in all their branches, and capital sport with either gun or line can be obtained in the chain of Kootenay Lakes on the eastern slope of the Rocky Mountains. Salmon trout weighing from 15 lbs. to 40 lbs. are among the catches in Eastern Kootenay. In the mountains back of these lakes, grizzly, cinnamon, silver tip and black bear, mountain sheep and goat are fairly plentiful. Guides are necessary, and the tourist will find good men in any of the settlements and stations along the line of the Crow's Nest Pass Railway. This new line has brought a great, undisturbed game country within easy reach of the sportsman.

British Columbia is truly the sportsman's paradise. Pheasants, grouse, quail, duck, geese—in fact, almost every known game bird—may be found in the vicinity of the coast, while in the interior bear, deer, mountain goat and sheep are plentiful. Trout are readily obtained in the mountain lakes and streams, and every variety of fish, from the herring to the whale, is available along the coast.

SETTLERS' EFFECTS

Freight Regulations for Their Carriage on the C.P.R.

1. Carloads of Settlers' Effects may be made up of the following described property for the benefit of actual settlers, viz.: Live stock, any number up to but not exceeding ten (10) head, all told, viz.: Cattle, calves, sheep, hogs, mules, or horses; household goods and personal property (second-hand); wagons, or other vehicles for personal use (second-hand); farm machinery, implements and tools (all second-hand); softwood lumber (pine, hemlock, basswood or spruce—only), and shingles, which must not exceed 2,500 feet in all, or the equivalent thereof; or in lieu of (not in addition to) the lumber and shingles, a portable house may be shipped;

seed grain; small quantity of trees or shrubbery; small lot live weights or pet animals; and sufficient feed for the live stock while on the journey. Settlers' effects rates, however, will not apply on shipments of second-hand wagons, buggies, farm machinery, implements or tools, unless accompanied by household goods. The amount of seed grain must not exceed the following: Wheat, 4,500 lbs.; oats, 3,400 lbs.; barley, 4,800 lbs.; flax seed, 1,400 lbs.

2. While the Canadian Pacific Railway is desirous of continuing to give liberal encouragement to settlers, both as to the variety of the effects which may be loaded in cars, and the low rates thereon, it is also the duty of the Company to protect the merchants of the North-west by preventing as far as possible the loading of merchandise of a general character in cars with personal effects.

3. **Passes.**—One man will be passed free in charge of full carloads of settlers' effects when containing live stock, to feed, water and care for them in transit.

4. **Settlers' Effects.** to be entitled to carload rates, must consist of a carload from one point of shipment to one point of destination. Carload shipments will not be stopped in transit for completion or partial unloading.

5. The minimum carload weight of 24,000 lbs. is applicable only to cars not exceeding 36 feet in length. If the actual weight of the carload exceeds 24,000 lbs. the additional weight will be charged for at the carload rate.

6. The minimum charge for less than carload shipments will be 100 lbs. at regular first-class rates.

7. Should a settler wish to ship more than ten head of live stock, the additional animals will be charged for at proportionate rates over and above the carload rate for the settlers' effects.

8. Less than carload shipments will be understood to mean only household goods (second-hand), wagons, or other vehicles for personal use (second-hand), and second-hand farm machinery, implements and tools. Settlers' effects rates, however, will not apply on shipments of second-hand wagons, buggies, farm machinery, implements or tools, unless accompanied by household goods.

9. Shipments of settlers' effects from connecting lines will be charged from the Canadian Pacific junction point, the settlers' effects rates from that point.

10. **Car Rental and Storage of Freight in Cars.**—When freight is to be loaded by consignor, or unloaded by consignee, one dollar (\$1.00) per car per day or fraction thereof, for delay beyond 48 hours in loading or unloading, will be added to the rates named herein, and constitute a part of the total charges to be collected by the carriers on the property.

Consignees are allowed twenty-four hours after notice of arrival of shipments in which to give orders for placing or delivery of cars before the forty-eight hours' free time mentioned herein begins.

CUSTOMS REGULATIONS

The settler is allowed to bring in duty free, wearing apparel, also household goods and farm machinery that has been in use for at least six months, but this does not include threshing machines or engines of any kind. On threshing machines, including engines and separators, a duty of 20 per cent. on their valuation is collected; on automobiles, 35 per cent.; engines, alone, 27½ per cent., and engines for farming operations, 20 per cent. The land buyer may bring in duty free, one head of horses or cattle for each ten acres of land purchased or otherwise secured up to 160 acres, and one head of sheep for each acre of such land. Other stock may be admitted up to any number, on a payment of 25 per cent. on valuation at the point of entry. However, any number of registered stock may be brought in duty free, provided certificates of such registration in Canadian herd books are shown to the proper Customs Officials. It may be well to take special note that it does not pay to smuggle anything in that is dutiable, otherwise such goods or chattels may be confiscated, or if not an amount may be assessed against such articles that would make it quite equivalent to confiscation. The owner or a competent attendant should accompany the shipment to the point of entry, in order to pay the proper duty charges, unless a suitable certificate is secured before starting. Goods of every nature may be forwarded in bond, to any point of delivery, which must be in that case a port of entry. Otherwise, such shipment will be sent to some port of entry, and back freight will be charged. Very great inconvenience may be saved with reference to the matter of duty by obtaining full information before making such shipment.

QUARANTINE REGULATIONS

Cattle, horses and sheep will be passed only upon a certificate of a quarantine inspection officer. Swine are subject to quarantine and should not be brought into Canada.

Any intending settler who contemplates bringing domestic animals into Canada should, some time before shipment takes place, communicate with "The Collector of Customs" at Winnipeg, Man., Regina, Sask., Lethbridge, Alta., or Sumas, B.C., to ascertain the exact condition upon which such animals may be admitted into Canada, and to procure and fill out whatever forms are required by the Canadian Government Quarantine Officers.

COST OF LIVING

To the farmer with limited resources it is important to know how far his capital will go and how it should be expended. The cost of living is also a vital feature entering into his calculations. The Company is anxious that every settler shall become prosperous and satisfied, and it is, therefore, important that they should labor under no misapprehension in

regard to the conditions prevailing in Western Canada, so that they may not over-estimate their resources or fail to lay out their capital to the best advantage.

The following are the retail prices of certain commodities prevailing at Calgary, Alberta, on the 1st of August, 1913.

This point has been selected as it is located in about the centre of Western Canada, and the prices there will, therefore, represent a fair average. East of Calgary, prices may generally be expected to be somewhat lower on most commodities, and at points west of Calgary probably a shade higher.

Farm Implements (Canadian)

2-furrow 12-inch gang	\$65.00
16-disc 18-inch. Disc Harrow	49.00
Three-section spike tooth harrow	17.00
Single disc 10-ft. drill	100.00
Mower, 5-ft. cut	65.00
Horse Rake, 10 ft.	39.00
Binder, complete, 3 feet	180.00
Wagon, complete, 3-ton	100.00

Harness and Saddlery

Good average work harness, per set	\$45.00
Collars, hand-made, each	3.50
Single buggy harness	\$15.00 and up
Halters	85c. to \$2.00
Saddles	\$4.50 to \$75.00

Furniture

Wood seat chairs	\$ 0.55 upwards
Leather seated chairs	1.50 "
Common kitchen tables	3.35 "
Dining tables	6.90 "
Sideboards	13.40 "
Bureaus	8.45 "
Washstands	3.85 "
Kitchen cupboards	12.50 "
Iron beds	3.55 "
Wire springs	2.90 "
Mattresses	2.55 "
Wire Camp cots	2.55 "
Canvas camp cots	2.00 "
Pillows, 3-lbs. each	60 "
Couches	6.35 "
Window shades	.40 "
Sheeting, plain or twill, per yard	.30 "
Sheets, per pair	1.50 "
Blankets, white, per pair	3.65 "
Blankets, gray, per pair	2.10 "
Carpets, all-wool and union	35-52c.
Carpet squares, all-wool	7.45 "
Carpet square, union	4.45 "
Toilet sets	1.75 "

Dry Goods and Clothing

Staple and fancy woollen goods	10 to 25 p.c. cheaper than St. Paul
Cotton goods	25 p.c. higher
Boots and Shoes	10 p.c. higher
Silk	10 p.c. cheaper

Meats Per lb.

Steaks, round	15c. to 20c.
Steaks, Porterhouse	18c. to 25c.
Roast, rib	15c. to 18c.
Roast	10c. to 15c.
Corned beef	10c. to 15c.
Mutton, side	12½c. to 15c.
Mutton, chops	15c. to 18c.
Mutton, fore-quarter	14c.
Pork	14c. to 17c.
Sausage	12½c. to 15c.
Dressed chicken	25c. to 35c.
Lard, bulk	15c. to 20c.
Salmon, steaks	12½c. to 18c.
Turkeys	25c. to 30c.

Groceries

Potatoes	60c. to 75c. per bushel
Butter	25c. to 35c. per lb.
Eggs	30c. to 35c. per doz.
Gran. sugar	5½c. per lb.
Brown sugar	5½c. per lb.
Rolled oats	2½c. per lb.
Fancy flour	\$3.00 to \$3.40 per 100 lbs.
Ham	22c. per lb.
Bacon	24c. per lb.
Tomatoes	12½c. per tin
Corn	2 tins for 25c.
Evap. apples	2 lbs. for 25c.
Evap. peaches and pears	12½c. per lb.
Evap. prunes	10c. to 12½c. per lb.
Oranges	30c. to 50c. doz.
Lemons	25c. to 40c. doz.
Apples	\$2.50 per box
Salt, per bbl.	\$3.25
Soda biscuits	10c. per lb.
Tea	25c. per lb. up
Coffee	25c. per lb. up
Rice	5c. per lb. up
Beans	5c. per lb.
Onions	3c. to 5c. per lb.
Tinned Salmon	15c. to 20c.
Jams, pure	8 lbs. for 75c.
Table and cooking syrup	75c. per gal.
Cheese	20c. per lb
Baking powder	25c. per lb.
Kerosene oil	40c. per gal.
Gasoline	40c. per gal.
Vinegar	60c. per gal.
Starch	10c. per lb
Turnips	1c. per lb
Tinned beef	20c.—2 for 25c.
Condensed milk	15c.—2 for 25c.
Codfish	15c.—2 for 25c.
Spices	Same as St. Paul
Crockery	Same as St. Paul

Good board and room may be had in most Western towns at from \$5 to \$8 per week and upwards.

PART IX.

LEADING CITIES OF
WESTERN CANADA

Those contemplating emigrating to Canada will be interested in a very brief description of the leading cities of the West, to one of which the immigrant will doubtless purchase his ticket, unless he has a specific destination in view elsewhere.

MANITOBA

WINNIPEG.—Thirty-five years ago Winnipeg's population was less than 1,000. That city is now the railroad and business centre of the Canadian Middle West, and has a population estimated at 200,000. Twenty-seven railway lines radiate from it, and it is the chief central point of the three transcontinental railways traversing Western Canada. Winnipeg has 22 chartered banks, a vast number of manufacturing establishments, 192 churches and missions, 40 public schools, several colleges, a university and provincial agricultural college. Its magnificent buildings and parks make it one of the finest cities in Western America.

BRANDON.—The City of Brandon is situated on the Saskatchewan River, 134 miles west of Winnipeg, and is a growing distributing centre. In 1901 the population was 6,520, and by the census of 1911 it was 9,620, while at the present time it numbers 17,000. Brandon is also a centre of education, has several flourishing industries, 10 banks, 17 churches, and has four railway systems entering its limits. Among other leading centres of settlement in Manitoba may be mentioned Portage la Prairie with a population of 7,500; St. Boniface, population, 10,000; Selkirk, 3,400; Virden, 2,300.

SASKATCHEWAN

REGINA.—This is the capital of the province and also the largest city in Saskatchewan. It is an important distributing and financial centre. The population is 45,000. Regina has 41 manufacturing concerns, several wholesale houses, colleges, 12 public schools, churches of all denominations, and is credited with being the largest distributing centre for agricultural implements in the world.

SASKATOON.—This city claims the distinction of having grown more rapidly into prominence than any other city in Canada. In 1903 there were 113 inhabitants, while the present population is 27,000. Saskatoon is the location of the Provincial University and Agricultural College. The city has spent over \$2,000,000 on its public schools, which are

thoroughly well equipped. It is also a wholesale distributing centre of considerable importance. There are 12 branches of chartered banks.

MOOSE JAW.—This is a divisional point on the main line of the Canadian Pacific Railway, with a population of about 25,000. Moose Jaw has, in addition to other factories, a large milling industry, and is well equipped with educational facilities, including residential colleges for boys and girls.

PRINCE ALBERT.—This city is picturesquely situated on the North Saskatchewan River, and is one of the oldest centres of settlement in the Province of Saskatchewan. The present population of Prince Albert is 13,500. Large lumbering concerns are located near this city, employing 5,000 men the year round. The city has eight banks.

ALBERTA

CALGARY.—This is the largest city in Alberta, with a population of 75,000. Calgary has some 460 retail stores, 190 wholesale establishments, 70 manufacturing concerns, 27 banks and is the chief divisional centre of the Canadian Pacific Railway in Alberta. Here also is located the head offices of the Department of Natural Resources of that Company. The extensive Western car shops of the Canadian Pacific Railway, for the erection of which an appropriation of \$2,800,000 was passed, are now in operation. These shops will eventually employ nearly 5,000 men. The city has many splendid business blocks, ranging in cost from \$100,000 to half a million dollars. There are 36 public schools, representing an investment of over \$3,000,000. The city owns, operates and controls all its public utilities, including street railways, electric light and gravity water-works. Calgary is one of the most up-to-date and beautiful cities in Canada.

EDMONTON.—This is the capital city of Alberta, and has a population of 67,000, with 26 branches of chartered banks. There are 90 wholesale houses and a large number of industrial enterprises of various kinds. The city is also the centre of an important and rapidly developing lignite coal industry, and is the centre of supplies for the north country. The Provincial University has been established on the north side of the Saskatchewan River, overlooking the Parliament Buildings. The city also contains ample educational facilities and operates all public utilities. Edmonton's location on the Saskatchewan River is most picturesque and much admired.

LETHBRIDGE is situated in Southern Alberta on the Crow's Nest line, and is also a growing manufacturing and distributing centre, with a population of 15,000. Lethbridge owns its electric light and power plant, has wide streets and ample educational facilities, nine branches of chartered banks, and the mines operating in the vicinity have a pay roll of over \$25,000 a month.

MEDICINE HAT contains some 14,000 inhabitants. This city is located near the easterly boundary of Alberta on the main line of the Canadian Pacific Railway. Medicine Hat is famous for its inexhaustible

supply of natural gas. A number of manufacturing establishments utilizing natural gas for fuel and power have located there. The entire gas supply is owned by the municipality.

BRITISH COLUMBIA

VANCOUVER.—Vancouver is the commercial metropolis of the Province of British Columbia, and is the terminus of the Canadian Pacific Railway. This city now has a population of 140,000. It is the most important Canadian shipping centre on the Pacific Coast, and its harbor is one of the finest in the world, land-locked, sheltered, roomy and deep enough for the largest fleet of vessels. Vancouver has a great many prosperous industrial concerns, and is a wholesale and distributing centre of large magnitude. It is well supplied with high-class public schools, colleges and other educational institutions, and promises to become one of the largest cities on the entire Pacific Coast.

VICTORIA.—This is the capital of the Province of British Columbia, and is the oldest centre of settlement in that province. Victoria is a city of 60,000, and is a tourist centre of considerable importance. It is also springing into prominence as a wholesale centre, and a number of industries are located there. The gardens and parks of the city are famed throughout the world, and it bears the reputation of being the most desirable residential point in Canada on account of its climate and situation.

NEW WESTMINSTER.—New Westminster is situated on the Fraser River, about 16 miles from its mouth, and 12 miles south of Vancouver. It is the centre of the salmon cannery industry, and also enjoys a large share of the coast-lumber trade. This was the capital of the old Crown colony of British Columbia. Several state institutions are maintained here, and the city owns and operates its own electric light plant. It is also the centre of an exceedingly rich agricultural district. The present population of New Westminster is about 18,000.

NANAIMO.—This is referred to as the "coal city" of British Columbia, and is located 73 miles north-east of Victoria, and has a fine harbor on the east coast of Vancouver Island. Its chief industry is coal mining, but latterly this city has become important as a centre of the herring fisheries. Nanaimo coal is shipped to the United States and Oriental points, and it is the coaling station for all ocean going steamships. The population is about 10,000.

PRINCE RUPERT.—This is the terminus of the Grand Trunk Pacific Railway, and is springing into considerable prominence. It is now a port of call for all northern lines of steamers. The town is beautifully laid out and has a population of some 5,000 souls.

PART X.

ROUTES, RAILWAY SERVICE AND INFORMATION BUREAU

Although an attempt has been made to incorporate in this handbook as much reliable information as possible regarding Western Canada it is not to be supposed that the entire subject could be completely dealt with in this manner. Doubtless, many points will occur to the intending settler upon which he desires fuller knowledge and advice. Such being the case it has been considered advisable to append complete lists of Canadian Pacific Railway and Dominion Government Officers to whom the intending immigrant may, with the utmost confidence, apply for disinterested information and advice.

ROUTES TO THE CANADIAN WEST.—Colonists arriving in Canada at Quebec or Montreal in summer, or Halifax or St. John, N.B., in winter (Halifax to St. John via Intercolonial Railway), travel to their new homes in Ontario, Manitoba, Saskatchewan and Alberta or British Columbia by the Canadian Pacific Railway direct. Settlers from the Eastern States travel via Montreal, Prescott or Brockville, and thence by the Canadian Pacific; but if from Southern and Western New York and Pennsylvania via Buffalo, Niagara Falls, Hamilton, Toronto, thence Canadian Pacific Railway; those from the Middle States either by Toronto, or by Chicago, St. Paul and Emerson, Man., or by St. Paul and Portá; from the Middle Western Coast States by Portá (or, if for Manitoba, by Emerson, Man.); from the Pacific Coast States by Vancouver, or Sumas, or through the West Kootenay mining regions via "Kingsgate" and Canadian Pacific from Rossland and Nelson..

ATTENTION AND CIVILITY of the employees of the Company are spoken of by every traveller on the line. The cleanliness of cars and stations is also noticed. These two points are, next to safety, most carefully watched by the management.

EQUIPMENT.—This line operates the finest Passenger, Sleeping, Parlor and Compartment Observation Cars in the world. The wheels and axles are of Krupp steel. The car bodies are strongly-framed to meet any contingency, and are wider and higher than those of most other railways. Both first and second-class cars are designed to secure uniform temperature, combined with perfect ventilation and freedom from dust, and with the maximum of strength, elegance and comfort.

LIGHT.—The Company's cars are brilliantly illuminated by modern lighting systems.

COMPARTMENT OBSERVATION CARS. finished in the most luxurious style and fitted with every convenience, are run on transcontinental trains only, between Montreal and Vancouver, and are the very latest that skill and experience can suggest. They contain, besides one drawing-room, compartments (containing one lower and one upper berth and toilet facilities), a buffet, capable of serving light refreshments, a well-selected library, a writing desk, a large observation room, fitted with easy chairs, and an observation platform at the rear end; they are lighted by electricity.

SLEEPING AND PARLOR CARS are owned and operated by the Company, and no expense has been spared to make them perfect. They are finished outside with polished mahogany, and their interior, with their beautiful fittings, are beyond comparison. The berths are wider, higher and longer than in other Sleeping Cars. The curtains, blankets and linen, made expressly for the Company, are of the finest quality. Writing paper and envelopes are furnished free to Sleeping Car passengers on transcontinental trains on application to the porter; and to keep travellers informed on current events, a summary of the news of the world is daily bulletined in the Sleeping Cars and at the Company's hotels in the mountains.

TOURIST SLEEPING CARS. fitted with mattresses, curtains, blankets, pillows, linen, etc., and in charge of porters, are run at stated intervals between Boston and Vancouver; daily between Montreal and Vancouver; Toronto and Vancouver; St. Paul, Minn., and Seattle, Wash.; and St. Paul, Minn., and Spokane, Wash., and Portland, Ore., via the Crow's Nest. The Tourist Sleeping Car is designed after the pattern of the Company's Standard Sleeping Car and neatly upholstered in leather. There is small kitchen and cooking range provided in car where passengers may prepare their own meals if supplies have been taken along. Passengers who do not wish to prepare their own meals may, when on trains that carry a dining car, have their meals on dining car a la carte. The berth rate in the Tourist is about one-half that of the Standard Sleeper.

SECOND-CLASS OR COLONIST SLEEPING CARS are well built, bright and pleasant, and the sleeping accommodation is excellent. No extra charge is made in these cars to holders of Second-Class or Colonist Tickets travelling on regularly scheduled transcontinental trains. They are unupholstered, but bedding, etc., can be purchased if not otherwise provided at Halifax, St. John, Quebec, Montreal, Ottawa (Broad St.), North Bay, Toronto (Union), Sudbury, Fort William, Winnipeg, Calgary, and Vancouver, at following rates: Mattresses, \$1.00 each; blankets, \$1.00 each; pillows, 35 cents each; straps, 20 cents each; curtains, \$1.00 per pair.

DINING CAR SERVICE.—The Company operates Dining Cars on all important trains. The service is a la carte; the passenger thus

pays for what he orders only. This service is well up to the standard of the first-class restaurant, and the prices charged are as reasonable as a high-class service permit of.

DINING HALLS are located at convenient stations, at which ample time is allowed for meals. Dining halls and luncheon counters are marked thus || on the time table.

Special attention is called to the excellent dining facilities at McAdam Junction, N.B., Windsor Station, Montreal, Broad St. Station, Ottawa, North Bay Station, Winnipeg Station, Field, B.C., Glacier, B.C., Revelstoke, B.C., and Sicamous, B.C.

SAFETY.—Every appliance of proved value calculated to secure safety has been adopted on this line. These are too numerous to mention, but they include an elaborate guard system at all bridges. Special care has been taken to make the heating apparatus on trains safe.

STOP-OVERS.—Intending settlers holding through tickets to points on the Canadian Pacific Railway west of Winnipeg are given the privilege of stopping over at stations where they wish to inspect the land. If stop-over is desired, application should be made to the Immigration Office of the Company at Winnipeg, in case the settler's ticket does not specifically provide for stop-over privileges.

All trains are met upon arrival at Winnipeg, or before reaching that city, by the agents of the Government and Canadian Pacific Railway Company, who give colonists all the information and advice they require in regard to their new homes.

Hotel System—Canadian Pacific Railway

THE CHATEAU FRONTENAC, QUEBEC.—In the quaintest and historically the most interesting city in America. One of the finest hotels on the continent. It occupies a commanding position overlooking the St. Lawrence, its site being unrivalled.

Rates, \$5.00 per day and upward. One mile from C. P. R. Station, transfer charge: Bus, 25 cents; Carriage, 50 cents. American plan.

THE PLACE VIGER, MONTREAL. is a handsome structure immediately opposite the Viger Square, at Place Viger Station, $1\frac{1}{2}$ miles from Windsor Street Station, and a convenient distance from Ocean Line docks, most tastefully furnished, the style and elegance characterizing the Chateau Frontenac at Quebec being also found here.

Rates, \$4.00 per day and upward, American plan.

THE ALGONQUIN, ST. ANDREWS, N.B. (Open from June to September), has recently been thoroughly renovated and much enlarged. Best natural golf links in Canada.

Rates, \$3.50 per day and upwards. Also The Inn (open from July 1st) at \$2.50 per day and upward. American plan.

McADAM STATION HOTEL, McADAM JUNC., N.B., is especially convenient for commercial and other travellers, owing to its location at the junction with the main line of the Company's branch lines intersecting New Brunswick. Rates, \$3.00 per day and upward. American plan.

CALEDONIA SPRINGS HOTEL, CALEDONIA SPRINGS, ONT. (open from May to October), is situated at the famous Caledonia Springs, about 300 yards from the C.P.R. Station. The Springs are now well known all over the American Continent. Special rates by the week or month.

THE ROYAL ALEXANDRA, WINNIPEG, MAN.—The Royal Alexandra is one of the most palatial hotels of the Canadian Pacific hotel system and is centrally located, adjoining the station, in the progressive City of Winnipeg, almost midway between the Atlantic and the Pacific Oceans. It is operated on the European plan and has 300 rooms, 110 of which have private baths, and all are fitted with the most modern and luxurious furnishings. Rates are, according to the location of the room or suite, from \$2.00 per day upwards (European plan), and the prevailing prices are lower than in many of the first-class hotels in the Eastern cities. A big addition has now been built to this hotel.

NEW HOTEL AT CALGARY, ALTA.—The Company has now under construction a new Hotel at Calgary. The plan and general arrangements of the other hotels of the Company will be followed and every known modern convenience will be installed.

BANFF SPRINGS HOTEL, BANFF, ALTA. (open from May 15th to October 15th), in the Canadian National Park, on the eastern slope of the Rocky Mountains, is 4,500 feet above sea level, at the junction of the Bow and Spray Rivers. A large and handsome structure. Distance from C.P.R. Station is about 1½ miles and transfer charge is 25 cents.

Rates, \$4.00 per day and upward. American plan.

CHATEAU LAKE LOUISE, LAGGAN, ALTA. (open from June 10th to October 15th), is a quiet resting place in the mountains, situated by Lake Louise, from which there is a good carriage drive. A convenient base from which to explore the Lakes in the Clouds. The Chateau is situated about 2½ miles from Laggan Station, and transfer charge is 50 cents.

Rates, \$4.00 per day and upward. American plan.

MOUNT STEPHEN HOUSE, FIELD STATION, B.C., a chalet hotel fifty miles west of Banff, at the base of Mount Stephen, which towers 8,000 feet above. This is a favorite place for tourists, mountain climbers and artists. The wonderful Yoho Valley is reached by way of Field.

Rates, \$4.00 per day and upward. American plan.

EMERALD LAKE CHALET, NEAR FIELD, B.C. (open from June 15th to September 30th), a most romantically situated Swiss chalet hotel with accommodation for forty guests. The gateway to Yoho Valley. Seven miles from Field Station. Transfer charge, \$1.25 each for not less than three persons.

Rates, \$3.50 per day and upward. American plan.

GLACIER HOUSE, GLACIER, B.C. (open from May 1st to October 31st), in the heart of the Selkirks, within forty-five minutes' walk of the Great Glacier, which covers an area of about thirty-eight square miles.

Rates, \$4.00 per day and upward. American plan.

HOTEL REVELSTOKE, REVELSTOKE, B.C., situated between the Selkirks and Gold Ranges, at the portal of the West Kootenay gold fields and the Arrow Lakes. Rates, \$3.00 per day and upward. American plan. A. J. MacDonell, Lessee.

KOOTENAY LAKE HOTEL, BALFOUR, B.C. (open from June 1st to October 15th).—A new, first-class tourist hotel at Balfour, B.C., near the junction of the Kootenay River and Kootenay Lake. An ideal resort for sportsmen. Rates, \$3.50 per day and upward.

HOTEL SICAMOUS, SICAMOUS, B.C. built on the shores of the Shuswap Lakes where the Okanagan branch of the C.P.R. begins.

Rates, \$3.50 per day and upward. American plan.

HOTEL INCOLA, PENTICTON, B.C. A new first-class tourist hotel at the foot of navigation on Okanagan Lake reached by the C.P.R. Steamers. An ideal resort for any time of the year, owing to the sunny, dry climate of the Okanagan Valley.

Managed by W. J. Richardson, for the Kettle Valley Railway.

HOTEL VANCOUVER, VANCOUVER, B.C., the Pacific Coast terminus of the Railway, is a hotel designed to serve the large commercial business of the city as well as the tourists who find it profitable and interesting to remain a day or longer. Situated half mile from C.P.R. Station; transfer charge, 25 cents. European plan.

CAMERON LAKE CHALET, CAMERON LAKE, B.C.—The chalet at Cameron Lake on Vancouver Island, E. & N. Ry. is an attractive place for a holiday.

Rate, \$3.50 per day. American plan.

EMPRESS HOTEL, VICTORIA, B.C.—Newly completed, at short distance from boat landing. One of the most beautiful hotels on the American Continent. European plan.

HAYTER REED. Manager-in-Chief, Hotel Department, Canadian Pacific Railway, Montreal.

CANADIAN GOVERNMENT IMMIGRATION AGENTS

Intending settlers will receive full information regarding any part of Canada from any of the Canadian Government Immigration Agencies, a list of which is added:

AGENTS IN THE BRITISH ISLES AND ON THE CONTINENT

England—

Mr. J. Obed Smith, Superintendent of Emigration, 11-12 Charing Cross
London, S.W.
Mr. Thos. Hammond, 139 Corporation St., Birmingham,
Canadian Government Agent, Carlisle.
Mr. John Cardale, 81 Queen St., Exeter.
Mr. A. F. Jury, 48 Lord St., Liverpool.
Mr. F. O. Chapman, Peterborough.
Mr. L. Burnett, 16 Parliament St., York.
Mr. S. W. Pugh, Adrian Court, Usk, Monmouthshire (Wales).

Scotland—

Mr. G. G. Archibald, 26 Guild St., Aberdeen.
Mr. J. K. Millar, 107 Hope St., Glasgow.

Ireland—

Mr. John Webster, 17-19 Victoria St., Belfast.
Mr. Ed. O'Kelly, 44 Dawson St., Dublin.

France—

Mr. Paul Wiallard, Can. Bureau of Information, 3 Rue de L'Isly.

Belgium—

M. Treau de Coeli, Place de la Gare, 23.

UNITED STATES AGENTS

Biddeford, Me.—J. B. Carboneau, Jr.
Boston, Mass.—Max A. Bowby, 73 Tremont St.
Chicago, Ill.—C. J. Broughton, Room 412, 112 W. Adams St.
Des Moines, Ia.—Frank Hewitt.
Detroit, Mich.—M. V. McInnes, 176 Jefferson Ave.
Grand Forks, N.D.—W. E. Black.
Great Falls, Mont.—Benj. Davies, Room 6, Dunn Block.
Indianapolis, Ind.—G. W. Aird, 215 Traction-Terminal Bldg
Harrisburg, Pa.—F. A. Harrison.
Kansas City, Mo.—George Cook, 125 W. 9th St.
Marquette, Mich.—C. A. Laurier.
Milwaukee, Wis.—Geo. A. Hall, 123 Second Street.
Manchester, N.H.—J. A. Laferriere, 1037 Elm St.
Omaha, Neb.—W. V. Bennett, 220 17th St., Room 4, Bee Bldg

WESTERN CANADA

Providence, R.I.—Elzear Gingras, 29 Weybosset St.
 Saginaw, Mich.—R. Laurier, 222 Hoyt St.
 Syracuse, N.Y.—J. S. Crawford, 301 E. Genesee St.
 St. Paul, Minn.—R. A. Garrett, 315 Jackson St.
 Spokane, Wash.—J. N. Grieve, Cor. 1st & Post Sts.
 Toledo, Ohio—W. S. Nethery, 413 Gardner Bldg.
 Watertown, S.D.—J. M. MacLachlan, Box 197.
 Philadelphia, Pa.—J. P. Jaffray.

CANADIAN PACIFIC RAILWAY AGENCIES

Antwerp . **BELGIUM**—Thomas McNeil, Agent..... 25 Quai Jordaen
Baltimore ... **Md.**—Arthur W. Robson, Passenger and Ticket Agent, 127 East Baltimore St.
Banff **ALTA.**—A. L. Powell, District Passenger Agent.
Battle Creek, **MICH.**—E. C. Oviatt, Travelling Passenger Agent..... 363 Lake Ave.
Belfast **IRELAND**—Wm. McCalla, Agent..... 41 Victoria St.
Bellingham, **WASH.**—W. H. Gordon, Freight and Passenger Agent..... 113 West Holly St.
Birmingham, **ENG.**—W. T. Treadaway, Agent..... 4 Victoria Sq.
Boston **MASS.**—F. R. Perry, G.A.P.D., G. A. Titcomb, C.P.A. 332 Washington St.
Brandon **MAN.**—J. A. McDonald, District Passenger Agent.
Bristol **ENG.**—A. S. Ray, Agent 18 St. Augustine's Parade
Brockville ... **ONT.**—A. Graham, City Ticket Agent, Cor. King St. and Court House Ave.
Buffalo **N.Y.**—G. H. Griffin, C.P.A.; C. S. Richardson, D.F.A.... 302 Main St.
Calgary **ALTA.**—Robt. Dawson, District Passenger Agent.
Chicago **ILL.**—Geo. A. Walton, Genl. Agt. Pass'r Dept. 224 So. Clark St.
 W. A. Kittermaster, Genl. Agent, Frt. Dept., 230 So. La Salle St.
Cincinnati ... **OHIO**—M. E. Malone, Genl. Agt., Pass'r Dept..... 436 Walnut St.
 B. R. White (Freight) 407 Traction Bldg.
Cleveland ... **OHIO**—Geo. A. Clifford, City Passenger Agent 213 Euclid Avenue.
Detroit **MICH.**—A. E. Edmonds, G.A.P.D.; E. Olson, D.F.A. 7 Fort St. W.
Duluth **MINN.**—Jas. Maney, Gen. Pass'r Agt., D.S.S. & A. Ry., Fidelity Bldg.
Edmonton ... **ALTA.**—Chas. F. Fyfe, City Ticket Agent 145 Jasper Ave.
Everett **WASH.**—A. B. Winter, Ticket Agent 1515 Hewitt Ave.
Fort William, **ONT.**—F. J. Blaine, District Passenger Agent.
Genoa **ITALY**—H. Coe & Clerici, Agents..... Piazza San Matteo, 18
Glasgow, **SCOTLAND**—Thos. Russell, Agent 120 St. Vincent St.
Halifax **N.S.**—J. D. Chipman, City Passenger and Frt. Agt. 37 George St.
Hamburg **GERMANY**—C. F. A. Flugge, Agent, Alsterdamm 8; Thos. Cook & Son,
 39 Alsterdamm.
Hamilton ... **ONT.**—W. McIlroy, C.P.A.; W. J. Grant, D.F.A., Cor. King & James Sts.
Hong Kong **—**—D. W. Craddock, General Traffic Agent, China, etc.
Honolulu **H. I.**—Theo. H. Davies & Co., Agents.
Kansas City ... **Mo.**—Edward Merchant, T.P.A.; L. C. Jack, Fft Agt., 441 Sheidley Bldg.
Kingston **ONT.**—F. Conway, City Freight and Passenger Agent.
Liverpool **ENG.**—F. W. Foster, Agent Royal Liver Bldg., Pier Head
London **ENG.**—H. S. Carmichael, Genl. Pass'r Agt., 62-65 Charing Cross, S.W.
 T. J. Smith, Genl. Freight Agent and 67-68 King William St., E.C.
London **ONT.**—W. Fulton, City Passenger Agent 161 Dundas St.
Los Angeles ... **CAL.**—A. A. Polhamus, Genl. Agt., Pass'r Dept., 708 South Spring St.
Manchester ... **ENG.**—D. H. M. Park, Freight and Passenger Agent 1 Mount St.
Melbourne ... **AUS.**—Union S. S. Co. of New Zealand (Ltd.), Thos. Cook & Son.
Milwaukee ... **WIS.**—F. T. Sansom, P.A., 100 Wisconsin St., A. G. G. Leuder, F.A., 913 Majestic Building.
Minneapolis **MINN.**—W. R. Callaway, G. P. A., Soo Line.
Montreal **QUE.**—E. J. Herbert, 1st Asst. Gen. Pass'r Agt. Windsor St. Station
 A. E. Lalonde, City Passenger Agent 141-145 St. James St.
Moscow ... **RUSSIA**—The Nordiske Reisebureau Hotel Metropole
Nagasaki **JAPAN**—Holme, Ringer & Co., Agents.
Naples **ITALY**—H. Coe & Clerici, Agents Via Agostino Depretis, 22
Nelson **B.C.**—J. V. Murphy, District Passenger Agent

New York	N.Y.—W. H. Snell, G.A.P.D.; T. F. Madden, C.P.A. 458 Broadway.	
	International Sleeping Car Co. 251 Fifth Ave.	
Niagara Falls N.Y.—D. Isaacs.....	Prospect House	
Omaha	NEB.—Ed. Eden, Agent 409 First National Bank Building	
Ottawa	ONT.—George Duncan, City Passenger Agent 42 Sparks St	
Paris	FRANCE—Aug. Catoni, Agent 1 Rue Scribe	
Philadelphia	PA.—R. C. Clayton, Gen. Agt., Pass'r Dept., 629-631 Chestnut St.	
Pittsburg	PA.—C. L. Williams, Genl. Agt. Pass'r Dept., Oliver Bldg., 840 Sixth Ave.	
Portland	Me.—Leon W. Merritt, Ticket Agt., Maine Cent. Rd. Union Dept.	
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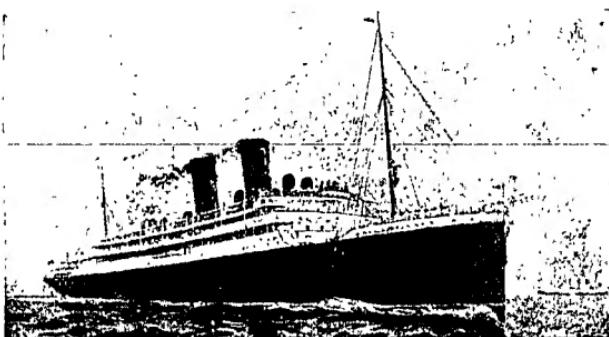
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